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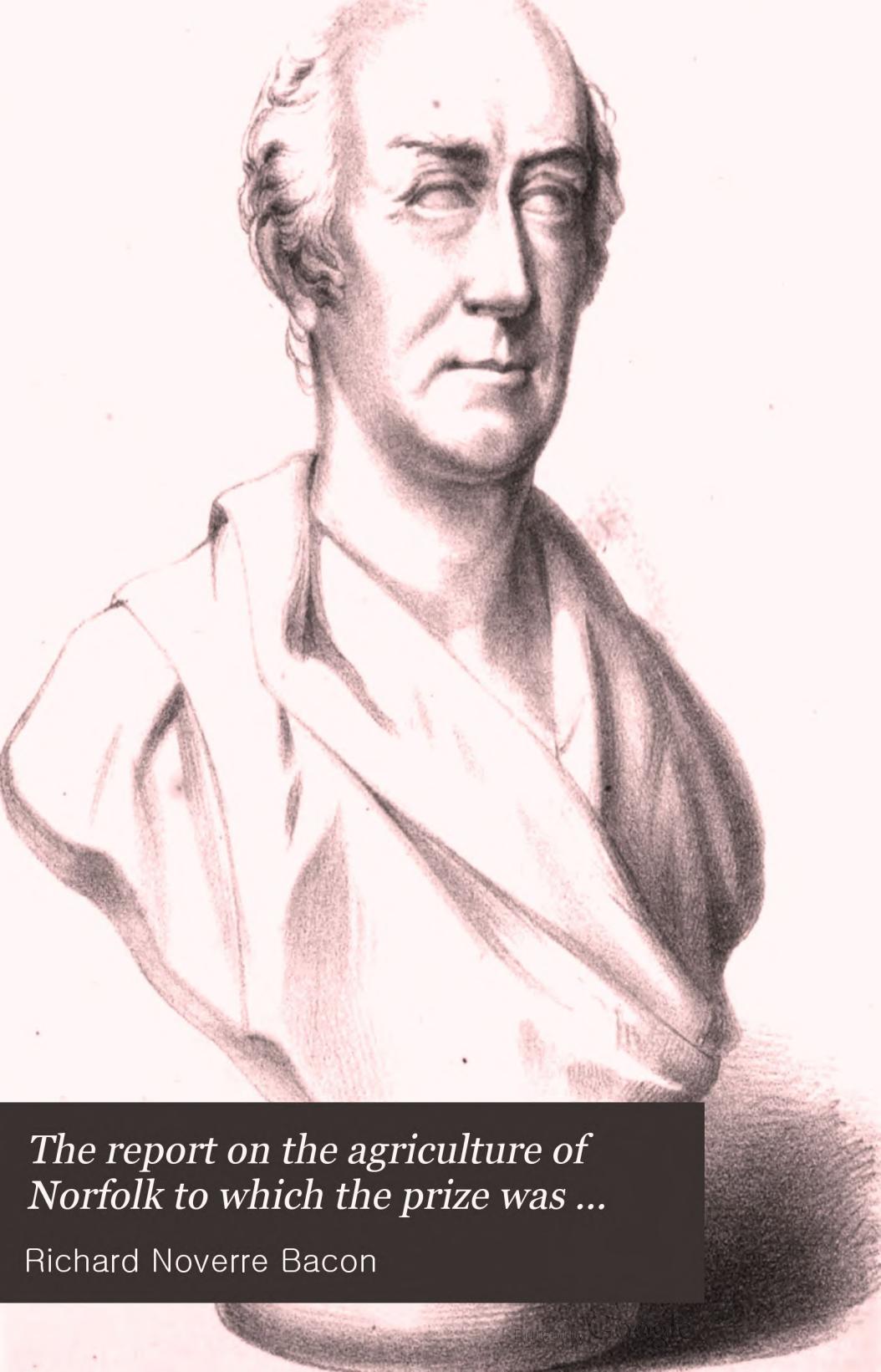
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*The report on the agriculture of
Norfolk to which the prize was ...*

Richard Noverre Bacon

Gough Add.
Norfolk.
p. 1.



THE REPORT

ON THE

AGRICULTURE OF NORFOLK,

TO WHICH

THE PRIZE WAS AWARDED

BY THE

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

BY

RICHARD NOVERRE BACON.

"*Veni, Vidi.*"

LONDON :

RIDGWAYS, PICCADILLY; AND CHAPMAN AND HALL, STRAND.

1844.

NORWICH :
BACON AND CO. MERCURY OFFICE.



TO THE RIGHT HONOURABLE

JOHN CHARLES, EARL SPENCER.

MY LORD,

I most respectfully dedicate this
Essay to your Lordship, the President of the Royal
Agricultural Society of England, as a just tribute to
the continued encouragement you have extended to
Agriculture, and to the practical improvement of its
various branches.

I have the honour to be,

Your Lordship's most obedient,

R. N. BACON.

SEPT. 16, 1844,
Upper Surrey Street, Norwich.

ADVERTISEMENT.

In contending for the PRIZE offered by the Royal Agricultural Society of England, I was not so much instigated by confidence in my own competency, as by the desire of many valued practical Friends, who were anxious it should not be charged upon Norfolk, that not one of her sons could be found to contend for the honour of describing the progression of her Agriculture.

For my success I am conscious I am mainly indebted to those Friends whose kindness on all occasions and for a long series of years I have the pride and pleasure to acknowledge; while a debt of gratitude is also due to many other Gentlemen, on whose assistance I had not even the slight claim arising out of personal acquaintance, for the candour, courtesy, and consideration, with which they replied to my enquiries.

To each and to all I now beg in heartfelt sincerity to tender my warmest thanks, and to express a hope that the PRIZE REPORT on the Agriculture of Norfolk will bear out the decision of Judges so competent as those from whom the award proceeded. It honestly upholds the skill and talent of Norfolk Farmers, and aims at maintaining with equal impartiality the true position of the OWNER, the just rights of the TENANT, and the welfare of the LABOURER.

I very gratefully acknowledge the courtesy with which the Council and Journal Committee of the Royal Agricultural Society acceded to my desire to publish the Report, as its length forbade alike its insertion in one Number of the Journal or its division.

In preparing the Report for publication, I have somewhat enlarged the description of the best implements in use among the most reputed Agriculturists, and illustrated them by drawings. I have also added brief notices of the distinguished inventors and manufacturers of improved machines, and the weekly returns of the Norwich cattle market.

To these useful additions, I have been enabled to append some anecdotes of one, who, as steward of the Holkham estate for many years, rose into the general esteem of the tenantry, and of all who had any intercourse with that noble resort of those connected with Agriculture. At the request of many of the Yeomanry, with the permission of the EARL OF LEICESTER, I have introduced copies of their GREAT PATRON, from the bust of Chantrey, presented by that Sculptor to Holkham, and from the picture there of Mr. Blaikie.

With these additions, and a few verbal corrections, the Report is in the same state as when it contended for the honour which it has obtained.

RICHARD NOVERRE BACON.

PREFACE.

THE facts, calculations, figures, and accounts, contained in the Report the writer has now the honour to submit to the Royal Agricultural Society, as a candidate for the Prize Essay, have been gathered from Agriculturists of the highest standing, and long acquaintance with the tillage of the County of Norfolk, verified by his own inspection and comparison of the present state and tillage of the land, the buildings, implements, and other points connected with the enquiry.

To satisfy the Society as to the extent and validity of the information he has obtained, he cites the names of the following gentlemen, to whom he is so deeply indebted for the most complete answers to his searching enquiries, instituted on a subject of so much individual and general, so much public and private interest and importance.

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,, BARHAM, Holvestone
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"	W. C. HOBSON, Barrister-at-Law and an Auditor to the Poor Law	"	J. SEWELL, Caldecote
"	HUDSON, Castleacre	"	W. SALTER, Whinbergh
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"	C. KENDLE, Fordham	"	SMITH, Gunton
"	R. LEEDS, Witchingham	"	SHERINGHAM, Westacre
"	S. LOCK, Barton	"	SWANN, Heckham
"	LONE, Stratsett	"	S. TAYLOR, Stoke Ferry
"	LONE, Dillington	"	T. THURTELL, Lakenham
"	GIBBS MURRELL, Surlingham	"	W. THURTELL, Wighton
"	T. S. MOORE, Warham	"	TINGAY, Scoulton
"	I. MARSH, Beetley	"	TUTHILL, Southwood
			WELLS, Sco Euston
			WRIGHT, Buxton.

INTRODUCTION.

THE increasing wants of an indefinitely increasing population, imperatively demand of those whose employment it is to raise the subsistence of the people, commensurate exertions to render the supply equal to the demand. To this end nothing, perhaps, can better contribute than a perfect knowledge of the power which Agriculture possesses, or may by the aid of capital come to possess. It appears to be the peculiar province, as well as the fortunate attribute of such a Society as that to which this Report is addressed, to institute the enquiry and diffuse its results.

The COUNTY OF NORFOLK, for a long series of years, was justly considered to be the point from which most of the great practical improvements in Agriculture emanated, and at a period when circumstances rendered it of import that the country should be stimulated to increase the production of the staple article of life, it was her fortune to possess among her proprietors an Individual, whose mind was not only almost unceasingly directed to

A

the cultivation of the soil, but whose earnest desire it was to elevate the Agriculture of England to its just position. The greatest of our philosophers has said, that “the effort to extend the dominion of man over nature is the most healthy and most noble of all ambitions.” And the truth of this sentiment has been exemplified by the high estimation in which the benefits conferred by the then THOMAS WILLIAM COKE have been held by Agriculturists of all countries. The Farmers of Norfolk had for a long period been content with the knowledge, the practice, and the skill handed down from generation to generation by their forefathers, and it was not until the latter period of the eighteenth century that an improved system, new arrangements, and new discoveries commenced and progressed step by step, until they rendered her agriculture the example for other counties—the pride of her own.

But the age is still far off, when of British or Norfolk Agriculture it can be said, “Proceed; to exceed is impossible;” and he indeed must have profited little by the experience of the last few years, who does not admit that, notwithstanding the science by which the present system of agriculture is directed—notwithstanding the mechanical skill which now promotes the operations alike of the ploughman and the plough—notwithstanding the knowledge of agricultural chemistry which now informs the farmer, concerning what sorts of manures are required for different productions, and are best adapted for different soils—notwithstanding the extraordinary change which the increased and improved

cultivation of the turnip has created, teaching how land may be kept in continual production—notwithstanding the introduction of artificial food, and the consequent enormous increase in the number of sheep and cattle grazed for market—notwithstanding all these vast strides towards perfection, that man must be little advantaged by the knowledge he has acquired, who does not perceive that agriculture is still in its infancy, with regard to the extent to which chemical science and mechanical ingenuity may be profitably applied in increasing and varying the productive powers of the soil.

GEOGRAPHICAL POSITION,**NAVIGATION, EXTENT, DIVISIONS, POPULATION,
BUILDINGS, AND ROADS.**

As the **GEOGRAPHICAL POSITION** of a County relatively to other parts of the kingdom, must have a material influence on its climate, and consequently both on the nature of its agricultural productions, on its mode of tillage, and also on the period of their arrival at maturity, it must be borne in mind that **NORFOLK** is situated to the North and East of this kingdom, and is bounded on those points by the German Ocean, on the Southwest by the Great Ouse river, which empties itself into the sea at the Wash, below King's Lynn ; while the Nene on the Western boundary falls into the sea at the Cross Keys Wash, having in its course thither many communications with the Ouse. The Bedford river cuts across from the lower sluice at Denver into the river Welney, which divides Cambridgeshire from Norfolk. The Little Ouse forms the divisions Southward between Norfolk and part of Suffolk, flowing to the West, and joins the Great Ouse. The Nar flows from

Narborough to Lynn; taking its rise on the farm of Mr. Beck, at Mileham, and is navigable from Narborough to Lynn for barges. The rivers which run towards the East are the Wensum, the Yare, the Waveney, the Bure, the Ant, and the Thirne. The Wensum rises in Western Norfolk, at Wicken Pond, Syderstone, about forty miles from Norwich. In its course through this central valley of the county, it is joined by several rivulets, and about a mile below Norwich by the Yare, in which name it flows on towards Yarmouth, being navigable to Norwich for vessels of one hundred tons burthen. At Burgh Flats the Waveney connects itself with this stream, and before its entrance into Yarmouth harbour it is increased by the waters of the Bure. This last river rises above Blickling Hall, about two miles beyond Aylsham, from which place it flows through the Northern valley of the county. After passing through Wroxham, it is joined by the Ant; about a mile above Acle bridge by the Thirne, and from thence it takes its course to Yarmouth. The Ant is navigable to Dilham, near North Walsham ; the Thirne from Horsey (within a direct mile of the sea) to its junction with the Bure. Along all these several rivers lie large tracts of marshes ; and along the Bure and the Yare are several expanses of water, provincially termed Broads ; at Surlingham, Buckenham, Filby, Martham, Rollesby, Hickling, Somerton, and Wroxham, Horsey, South Walsham, Barton, Hoveton, Ranworth, and Stalham—the whole consisting of many hundred acres. All these rivers are wholly or partially navigable, and a large portion of the

corn, barley, malt, &c. of the Eastern districts is conveyed to Yarmouth, Beccles, &c. for exportation, at about 1s. 9d. to 2s. per ton, or 3d. per coomb,* in vessels called wherries, of a form peculiar to the county, capable of carrying a larger quantity than their appearance would indicate. They are, besides, swift sailers, run very close to the wind, a great desideratum in an exceedingly winding river, and are "quanted" along at a fair rate by two men when the wind is foul. These vessels on their return from the ports bring back marl, manure (artificial or natural), oil cake, coal, &c.; in short, most of the natural productions agriculture can require, at an equally cheap rate—in some places to the door of the farmer, while at other points the marl is

* The export of produce from Yarmouth will exhibit, in some degree, the quantity thus conveyed, no account being kept at Norwich of the quantity carried down of the river. The amount received for goods, coals, &c. at 4d. per ton, brought to Norwich, including the cost of collection, is stated in the accounts of the Old Corporation to have been :—

	Coals.	Goods	Sand.	Total.	<i>£.</i>	s.	d.
From Christmas 1821 to 1822	44372 <i>1</i> 1823 1824 1825 1826 1827 1828	17067 50843 <i>1</i> 46703 <i>1</i> 53475 <i>1</i> 49110 <i>1</i> 42464 <i>1</i> 45220	2196 <i>1</i> 19026 <i>1</i> 21727 <i>1</i> 23514 <i>1</i> 20265 <i>1</i> 21152 <i>1</i> 21613 <i>1</i>	63635 <i>1</i> 72128 <i>1</i> 70970 <i>1</i> 79494 <i>1</i> 71666 <i>1</i> 65320 <i>1</i> 68712 <i>1</i>	1060 1202 1182 1324 1194 1088 1145	11 2 16 18 8 13 4	11 10 11 0 8 6 0
From Christmas 1828 to April 5, 1829	6208	4648	423	11274	187	18	0
From April 5, 1829, to April 1830	36177 30 1831 31 32 32 33 33 34 34 35 35 36	16926 <i>1</i> 37670 <i>1</i> 38208 <i>1</i> 38516 <i>1</i> 40398 <i>1</i> 36131 <i>1</i> 41096 <i>1</i>	1412 <i>1</i> 1295 <i>1</i> 18748 <i>1</i> 17336 <i>1</i> 18118 <i>1</i> 19133 <i>1</i> 19294 <i>1</i>	54516 <i>1</i> 58704 <i>1</i> 1017 <i>1</i> 1100 <i>1</i> 752 <i>1</i> 932 <i>1</i> 1139 <i>1</i>	908 978 966 56952 59268 56196 61529 <i>1</i>	12. 8 4 0 987 936 1025	0 0 6 0 16 12 10
In April 1836	5277	1742	86	7105	118	8	4

The Tonnage was let by the Council at £1210, which sum is now increased to £1220, without the expense of collecting.

laid up on staithes or wharfs until required for use. This manure is most important, inasmuch as a large part of the extreme Eastern district having no marl or chalk, is thus enabled to secure a very important adjunct at a cost cheap in comparison with what its carriage would be by land. The wherries carry from fifteen to thirty tons each. Rushes and coarse hay grown on the marshes adjacent, are also carried in large flat-bottomed boats to staithes where waggons take them to the farm yard.

Within the last twenty years a communication for ships of one hundred tons burthen has been opened between the river Yare, near Reedham, by cutting a canal across the marshes to the river Waveney, deepening and widening Oulton dyke, and passing through Oulton Broad, where there is a swing bridge and lock, into Lake Lothing, near Lowestoft, and from thence by a sea lock into the German Ocean. This navigation has had an important effect in reducing the cost of tonnage, and in securing the goods from theft. Although from various circumstances this important improvement has not become of such advantage as its promoters were led to anticipate, ships and Humber keels are continually passing to and from the metropolis, Norwich, and other parts, with all sorts of merchandize. More than one attempt has been made to obtain a continuance of the navigation by the Wensum from Norwich to Dereham, but this has never been adopted in consequence of the objection made by the principal landowners on the line of the stream. It has lately been suggested by some of the owners and occupiers in the Flegg Hundreds, to re-open the Old

Muck Fleet river, which passes from Filby Broad into the Bure at Stokesby, and render it navigable. By this means Filby, Ormesby St. Margaret, Rollesby, Martham, and the parishes immediately adjacent, would obtain a nearer communication direct to Yarmouth than they now possess. If the plan be carried out, it will add greatly to the value of the property in the neighbourhood.*

From Wisbech to Outwell Creek and Salter's Lode there is a canal of about six miles, originally made to improve the navigation of the Nene. The EAU BRINK CUT, intended to extend this navigation to Lynn, was not commenced until 1818, although the first Act of Parliament for its formation was obtained in 1795. In 1820 it was finished. Its importance to the drainage of the district is described in another part of this report; but the following table will shew its almost equal value as a means of conveyance for agricultural produce.

The quantities of grain, &c. brought down the rivers to the port of King's Lynn, during the year 1843, were:

	QRS.	BUS.
Wheat	73,006	7
Beans.....	15,476	6
Barley	8,185	1
Rye	3,560	5
Malt	20,573	2
Seed	821	6
Oats.....	6,280	7
Peas	86	4
Seed 3,897 sacks.—Flour 24,869 sacks.		

* Since this was written (1843), the project has been given up.

The NORTH WALSHAM AND DILHAM CANAL joins the river Ant, just above Wayford Bridge, in the parish of Smallburgh, passing through Dilham, Honing, Bacton, Swafield, Bradfield, North Walsham, to Antingham ponds, in the vicinity of Gunton, the property of LORD SUFFIELD; it is nine miles in length, and was completed September 1826, having cost £32,000, raised by a Company in shares of £50 each. It is only navigable for small craft of ten or twelve tons burthen, which are employed in carrying corn and flour to Yarmouth, and bringing back manure, marl, chalk, coal, and a few goods.

The rate of tonnage has been frequently altered, but it is now, on

Corn and Flour	3d.	per ton per mile.
Manure and Marl ...	1½	do.
Coals	3	do.
Goods.....	1½	do.

	£.	s.	d.
The Receipts for 1827 were	381	14	11½
" 1830	" 263	5	5¼
" 1834	" 335	17	0½
" 1838	" 335	10	8¾
" 1842	" 486	9	7¾
<hr/>			
5)1802	17	9¾	
<hr/>			
Being an average of.....	£360	11	6¾
<hr/>			

DIVISIONS AND POPULATION.

THE COUNTY is divided into thirty-three hundreds, independent of the City and County of Norwich, and the Boroughs of Yarmouth, Lynn, and Thetford. Its area comprises 2024 square statute miles, containing rather more than one million, two hundred and ninety-two thousand, three hundred acres. There are, according to the last returns,* 85,903 inhabited houses, and 3,720 uninhabited. The population was 412,664 persons, of whom 94,982 were males, and 95,967 females, under twenty years; 104,119 males, and 117,596 females, above that age. Of these 384,594 were born in the county, and 28,070 dated their births elsewhere.

NORWICH contains 5,920 acres, 14,023 inhabited, and 812 uninhabited houses. Its total population was 62,344; males under twenty years of age 12,766; females 13,807. Above twenty years 15,403; females 20,368. Born in the county 56,847; elsewhere 5,497.

YARMOUTH contains 1,270 acres; inhabited houses 5,783; uninhabited 164. Total population 24,086. Of these—males under twenty years 5,042; females 5,614. Above twenty years—males 5,515; females 7,915; born in the county 20,746; elsewhere 3,340.

THETFORD includes 4,040 acres, 800 inhabited houses, and 27 uninhabited houses. Its population 3,934; males under twenty years of age 794; females 980. Above twenty years—males 1,007; females 1,153. Born in the county 3,107; elsewhere 827.

* 1841.

LYNN possesses 2,620 acres; 3,313 inhabited houses; and 187 uninhabited. Its population 16,039; males under twenty years of age 3,399; females 3,653. Twenty years and upwards—males 3,899; females 5,088. Born in the county 14,324; elsewhere 1,715.

Increase per cent.

The total population in 1801 was 273,371 ... 7
" " 1811 " 291,999 ... 18
" " 1821 " 344,368 ... 13
" " 1831 " 390,054 ... 13½
" " 1841 " 412,664 ... 5½

ROADS.

IN the ROADS there has been a most decided improvement, and not only in the Turnpikes, but in the Cross-roads, the management being entirely under the controul and care of officers appointed by the parishes. The Turnpikes are now managed according to the plan of MAC ADAM. They are kept in general good order. Materials, marl, gravel, and flint, are always found near the line. The Bye Roads are greatly improved. Since the alteration of the Poor Law, they have been kept up at less expense, both of labour and materials. Before that enactment passed, the labourers out of employ were sent upon the roads, but the result was only a waste of materials and money. Now the roads are in most cases repaired regularly by labourers fairly paid; the consequence is, the work is well done, the materials used to advantage, less required, and at less cost. This is an important change for the farmer, whose distance from

market makes his journeys a serious charge in wear and tear ; particularly in West Norfolk, where some of the occupations are from fifteen to twenty miles from one of the principal corn markets, Lynn ; and no other means of conveyance for their produce but land carriage. The farmer is enabled now to carry at least one-fifth more corn with the same number of horses.

SOILS AND CLIMATE.

THE SOIL of the County has been tersely and truly described by an old writer (Dr. Fuller.) " All England may be carved out of Norfolk, for here are fens and heaths, light and deep, sandy and clay grounds, meadow lands and pastures, arable and wood lands."

In the hundreds of Blofield, Walsham, East and West Flegg, Tunstead and Happing, to the East and North-east of the county, the arable land is principally composed of vegetable and alluvial soils, and rich loam, with slight variations. Near Norwich it is more gravelly; for instance, on the high ground of Mousehold, towards Postwick, it is a light gravelly soil; Witton and Blofield a better staple; while on the hill at Strumpshaw, the highest ground in the county, there is a fine blue clay, differing totally from all the surrounding fields. Burlingham and Lingwood contain good productive soils. Walsham and Upton are fine vegetable and alluvial. The soil at the entrance of Acle is on a clay, while immediately on the other side of the village, at a distance of

not above half a mile, the land is a fine vegetable soil of great depth, arising, as some philosophers ingeniously suppose, from there having been a forest in times antecedent to the Flood. From thence to Yarmouth a large district of improved and improving marshes succeeds. The high ground to the right, containing the parishes of Southwood, Freethorpe, Halvergate, Tunstal, Moulton, are heavy loams ; Limpenhoe and Reedham is much lighter. In East and West Flegg it is vegetable, of a soft, greasy, and friable nature, of considerable depth, easy of cultivation, and very productive, with an under-stratum of clay, gravel, sand, and brick-earth. To the North is an immense tract of marshes in a wretched state, arising entirely from want of drainage; in winter often under water, and in summer growing only coarse feed or "rowen." But they belong to so many small proprietors, that although under the management of Commissioners of Drainage no improvement of any importance will be effected unless enforced by Legislative enactment. Whenever that shall be obtained, a very fine tract of grazing lands will increase the value of that already most fertile district. At Horsey, the property of Mr. Robert Rising, a great change has already taken place. Within this century, a large portion of that level was under water; it is now in the gradual course of improvement by drainage, &c. and will in a few years become a most valuable addition to his estate. A large number of acres are now let under an improving lease. Tunstead and Happing, more to the North-east, contain a rich mixed soil, in some parts very kind for wheat, and not unkind for turnips, with an

under soil of clay and sand. There are other portions at Hickling, Palling, Stalham, Ingham, Smallburgh, East Ruston, Dilham, &c. which are a stronger mixed soil, and although in some places wet, very productive. The under-stratum is a tender brick-earth. In the North, about Blakeney and Cley, there is a district of mixed soil; a portion very light, with a subsoil of gravel, sand, and marl; the marshes adjoining the sea shore being a strong ooze with brick-earth, upon a sub-stratum of sea-sand, brick-earth, chalk, marl, gravel, and clay.

Bingham, Saxlingham, the two Walsingham, Sharriington, Thornage, Hindringham, Langham, Stiffkey, Field Dalling, and Bale, all comprise, for the principal part, a district of good soil, yet subject here and there to great variations.

Towards Basham, Warham, Wells, and Holkham, the soil is a light mixed loam and gravel, upon chalk and marl. A portion, however, leading from Wells to Holkham, being a fine rich mixed soil of good staple. From Holkham park West gate, right and left of the road to Burnham Market, the soil is deep and of fine quality; upon which as much as eight quarters per acre of barley have been grown. All the Burnhams, although not generally of a deep rich staple, part being even very light soil, are nevertheless productive under good management. The under soil is a chalk, or a mixture of chalk and gravel.

At Titchwell, Holme, and Thornham, the soil is deeper and of better staple. Hunstanton, Choseley, Brancaster, and Burnham Deepdale, possess a soil of a

lighter description—silicious sand and gravel, resting upon chalk, or a mixture of sand, gravel, loam, and marl, upon a subsoil of marl; the general sub-stratum being all chalk. It is subject to suffer from drought, seldom too wet to work, requiring much manure, but capable of producing corn of good quality.

At Congham the soil is of a dry marly nature, upon a subsoil of chalk, very near the solid rock, some small portions being clay. The Weasenhams, Docking, Stanhoe, Fring, and Creake, are loams of productive quality; some, for West Norfolk, comparatively strong, with lighter portions intermixed. The different subsoils are chalk and gravel, clay and brick-earth, with some sand.

Bircham, Barwick, and Houghton are generally a light soil, principally on gravel and sand, and occasionally marl.

Massingham, Harpley, and Syderstone combine some good fertile lands, with portions light and sandy.—Rougham and Castleacre are generally fine arable land, very prolific, with good upland pasture and water meadows. The Rainhams, Oxwick, Colkirk, and Ryburgh are generally fine land of deep staple. Gressenhall, Beetley, Bilney, Mileham, Stanfield, Tittleshall, Horningtoft, and Whissonsett are exceedingly variable. Each parish contains portions of wet, strong, unequal soil, with others of fine, and some of a light gravelly nature.

Litcham, West and East Lexham, and Castleacre Newton, generally speaking, are a light gravelly soil; but in each parish, especially Litcham, there are portions of really good land. Gayton and Gaytonthorpe, Westacre, Walton, Southacre, and Swaffham, are light,

on a chalk; but through each of these parishes there runs a vein of very productive land.

West Bilney, Pentney, Narborough, and East Winch are also light; some spots are wet and difficult to drain, because of the "gaulty" nature of the soil, but here also there is some portion good. North and South Wootton and Gaywood contain a district of the finest grazing marshes in the county, the arable portion being very variable, from bad gravel to good soil. Ashwicken, Middleton, Runcton, and West Winch with Mintlynn, possess some extremely fine arable, the better part a strong loam, and some on a gravel. In Mintlynn there are some very good grazing lands. At Watlington, Wormegay, Tottenhill, the soil is light and "gaulty;" and here also is some wet land, requiring a heavy outlay for drainage and cultivation. The last is a low wet black moor.

At Heacham, Snettisham, Sedgeford, and Shernborne, the soil is variable, some being very good and productive, and some being light, upon a chalk sub-stratum. At Snettisham there is a quarry of what is provincially termed "car" stone, which is used very much for building purposes. It is hewn into blocks, which are put down as foundations for buildings. There are also good marshes, letting from forty to fifty shillings per acre. Castle Rising, Dersingham, Sandringham, and Hillington, are principally light, with some small portions of fine soil. The marshes at Castle Rising have been of late materially improved by well directed drainage.

Upon the extreme West of Norfolk lies Marshland, that fertile and wonderfully improved district; and next

it Freebridge Lynn and Clackclose hundreds. A fine vein of rich land runs from West Dereham through Clackclose, up through Appleton and Hillington, towards Heacham. Marshland is a fine alluvial soil as its name would indicate; consisting of alternate layers of moor and silt, in some places found to reach a great depth, with a subsoil of blue clay. Downham contains much good arable, with a portion of inferior land. In this neighbourhood there is a large district of fen land, which has been immensely improved within these forty or forty-five years. Some parts, which not many years ago were considered worth not more than seven pounds an acre to purchase, have been sold within the last five years at forty-five pounds an acre; while for others, a very few years since offered for a gallon of beer per acre, nearly forty pounds have been given. Bexwell and Denver have also some fine, part of a lighter quality, and some black gravel. To the East, the two hundreds of South Greenhoe and Grimshoe, the soil is light; also to the North and West, mixed with some few spots of heavy land. At Fincham, Shouldham, Stradsett, Crimpleshaw, Stoke Ferry, and Boughton, the soil is a good loam and deep; the subsoil chalk, clay, and sand. About Caldecote, Beachamwell, Cockley Cley, Pickenham, Colverstone, Didlington, Cressingham, Buckenham, Lynford, and Foulden, the lands are principally a light sand on chalk, some very inferior, worth not more than three shillings per acre, with some black gravel; but this district, though amongst the lightest in the county, contains soils of all descriptions and of various depths. In Foulden

there is exceedingly unkind working land ; the subsoil is chalk, yellow and blue clay. Passing along to Wretham, Hockham, Shropham, and Brandon, a great improvement has taken place. Tottington, Thompson, Sturston, Stanford, and Bodney, are sand upon a chalk and gravel, thin in the skin, with parts very wet. Some idea may be formed of its value from the fact that large portions are let at 3s. 6d. per acre. Within the last year a considerable quantity was warren, but this is now in the course of being broken up for cultivation. Between Larlingford and Thetford a great portion is sheep walk. Towards Snetterton, Hargham, Wilby, Eccles, and Attleborough, the land is much better, though still light; the subsoil clay, chalk, and gravel.

The district comprising part of Wymondham, Ketteringham, Fundenhall, Wreningham, Old and New Buckenham, Tibbenham, Tivetshalls, Dickleburgh, Thelton, Denton, Woodton, Howe, Yelverton, has some mixed loams upon clay, strong and heavy, requiring much draining and a peculiar tillage. Redenhall, Pulham, Starston, &c. are a rich loam, on a brick-earth and bluish clay, with a small quantity of chalk-stone, and frequently adhesive brick-earth.

Blo' Norton has some mixed and some light soil, with a cool sand for a subsoil. Holverstone, Rockland, Brooke, Langley, and Loddon, are mixed soils of a fair depth, with subsoil varying from loam and clay to brick-earth. The soil of Aldeby and Toft Monks, and the neighbourhood adjoining Suffolk, is of a texture between

heavy and mixed, and is kind for turnips and barley. There is, however, a considerable quantity of light land upon a sand, which is of a dry and scorching nature ; the mixed of a fair average depth, and is, for the most part, on a strong clay. There is a small proportion of fine rich soil upon a loam.

Returning towards the West, the same species of soil, though varying in its texture, extends to this district. Great and Little Dunham with Kempstone, Beeston, Little and Great Fransham, are generally speaking lands of good staple and productive, the subsoil being strong loam and clay.

Necton, Holme Hale, Shipdham, Whinbergh, Yaxham, East and West Bradenham, and Wendling, are strong adhesive soils, interspersed with good lands, but still requiring a great outlay in drainage.

Dereham, Swanton, Elsing, Hoe, Mattishall, East and North Tuddenham, combine good fertile land with strong soils, well adapted for wheat or clover, but the strong not naturally so good for turnips. Ashill, Saham, Letton, Cranworth, Ovington, Watton, and Carbrooke, is a district of fine deep soil, some portion too adhesive, and some light, but generally good for wheat and clover, and also requiring drainage.

On the other side of the Wensum, and nearly in the same line, are the parishes of Foxley, Themelthorpe, and a part of Foulsham (some of Foulsham, however, being fine soil); these vary from barren heath to thin skin, wet sand on a strong stiff clay, while Bylaugh, Billingford, and a part of Bintry, are a light silicious sand, on a loose

gravelly subsoil; interspersed by a few acres of a good hazel loam on a yellow clay. Some of a light gravelly nature, some strong, and some fine kind loam, and friable; some cold clayey loam, but productive if stimulated by plenty of manure; the subsoil being brick-earth, gravel, and sand, with a tender calcareous clay and marl.

In the hundred of Taverham, the surface soil in general is light and sandy, on a subsoil of chalk; while some parts are on a gravel. That of Spixworth, Beeston, St. Faith's, is a good deep mould. Stanninghall is light, but Frettenham, although also light, is of better quality. Stratton and Marsham are wet and cold thin-skinned lands, with an under-stratum of so hard a nature as to prevent the water percolating. Drayton is light and sandy upon chalk. All this hundred is much affected by the season. In a moist year it grows a fine quality of barley, and in dry hot summers it is scorched.

In South Erpingham, Cawston is light gravel, except some lands in the village, but it is generally cold wet land. Heydon is also wet, cold, and light. Saxthorpe, Bodham, Beckham, and that neighbourhood, is a very light blowing sand, without a stone upon it, and the crops are from a week to a fortnight more backward than almost any other part of the county. Guestwick and Dalling are wet and strong, as are Fulmodeston, Gunthorpe, and Bale; indeed the district from Kerdistone to Field Dalling, and from Melton Constable to Kettlestone, is principally on a brick-earth and clay.

The lands in the West part of North Erpingham are backward, but superior to the rest, being a loam and mould on brick-earth and clay. To the North, Felbrigg, Cromer, Beeston, Runcton, &c. are principally a sand on a clay. There is some chalk in the neighbourhood. The wheat grown here is of good quality. The soil on the South-eastern side, Walcot, Trimingham, Knapton, Trunch, &c. is a fine deep loam, principally on clay, although a few parts are sandy.

CLIMATE.

THE CLIMATE has undergone considerable changes during the last seventy or eighty years, owing to the great attention paid to the cultivation of the soil, inclosing the waste lands, and the immense drainage that has so successfully been carried on throughout the marshy districts. From the general even surface of the soil, the climate is healthy, particularly the midland and Southern parts, and although the county is exposed to such an extended sea boundary, no particular inconvenience is experienced, except when the North and North-eastern winds prevail, and whenever this happens in February and March, sharp biting frosts are felt throughout the county, and the crops suffer materially, vegetation receiving a check which continues till late in the spring. When however this is not the case, the corn is seen healthy and luxuriant, even on the very borders of the German Ocean.

SYSTEM, &c.

AT THE TIME OF KENT'S AND YOUNG'S SURVEYS.

MR. KENT's survey of Norfolk made its appearance just at the time (1796) when a new light was beginning to break in upon agriculture, and his strong and clear mind instantly seized, among others, upon some of those points which experience has since proved to have tended in a great measure to the improvements that followed between that period and the present time, while he also pointed out those which would be found detrimental to its progression, since also amended by legislative enactment. Nor were his warnings with regard to the poor less prophetic or less true, or his recommendations less acute and sagacious. The former have been fulfilled almost to the very letter, and some of his suggestions full half a century afterwards adopted. He saw that in order to make the poor lands prolific, of which a large part of Norfolk was composed, as well as to bring into cultivation the thousands of acres then in commons and warrens, it was necessary that some bonus should be given to farmers of capital to lead them to undertake their tillage, and this could alone

be done by giving the occupier such a permanent security as would in all fair probability obtain a just return for an outlay which must be large. With a view to effect this object, he urged the granting long leases as the most rational encouragement. He was, however, adverse to farms of poor land, above £500 a year, and this size only admissible on account of the necessity of keeping a large flock. He considered occupations of from £80 to £150 a year on good land preferable to larger, as they found employment for a number of industrious persons, whose only chance was to raise themselves in life by this means.

The LONG LEASE SYSTEM (slightly as at that time it was adopted) had caused the few improvements which had commenced, while upon estates where the tenure was from year to year, the tenants he says were "upon a miserable footing, and the landlords obtained less rent." The tithe he held to be the grand discouragement to the general cultivation of waste lands; while from the disproportion between the wages of the labourer and the price of provisions, he augured a great and alarming increase of pauperism.

The GENERAL COURSE of HUSBANDRY was the six-course shift—taking two white crops, commencing with wheat, followed by turnips, barley, or oats, with a two-years' layer.

Towards North Walsham and Yarmouth on the good soils, the four, five, and six-course shift was followed. Broadcast sowing and dibbling were practised, the former having the preference. WHEAT was sown on

the flag of a one-year layer, but when on a two-years', the olland was first pared and wrestbalked, then harrowed and ploughed, the seed sowed broadcast, and ploughed in at Michaelmas. For BARLEY following wheat, the stubble, after having been fed till Christmas with turnips thrown on it, was scaled, then ploughed in two furrow ridges, and before the seed was sown four earths were given. For TURNIPS the stubble was ridge-balked before Christmas ; harrowed in March ; three more earths were given ; mucked at the rate of twelve loads per acre ; was ploughed in shallow ; sowed and rolled. Crushed rape cake, at the rate of a quarter of a ton per acre, was just beginning to be drilled in after the seed was sown, with Cook's original drill, the cups, &c. being changed. Upon poor land, half the turnips were drawn and half fed off upon the land by sheep ; while upon the good soils of East Norfolk, all were drawn and carried into the yards for beasts. For BARLEY after turnips, three earths were given ; the new layers were mucked in the spring. BUCK-WHEAT and PEAS were irregular crops, the former being grown after the barley thus—wheat, barley, buck-wheat, and peas, instead of wheat upon a one-year's layer. SAINTFOIN had lately been cultivated, its value beginning to be known upon soils with a sub-stratum of chalk, and as food for sheep ; thus producing an effect now discovered to be of importance on such lands, by furnishing them with matter convertible into ~~humus~~* (which the land

* A word used in chemical language to express that portion of the soil which most conduces to its fertility.

required to render it fertile), obtaining the same end as a fallow, with equal certainty and more profitably. KENT considered the cultivation of Saintfoin next in importance to Irrigation, and recommended more economy in its use, by racking it instead of throwing it about the yards for horses ; he reprehended fallowing as unnecessary, and as a loss where the land was clean and in good heart, except where three white crops were taken. The quantity of Saintfoin cultivated is now not near so great, in consequence of the application of artificial manures.

VETCHES were sown between wheat and barley in a seven-course shift as an assistance in keeping a larger quantity of stock upon the poor soils of West Norfolk ; probably because they could be grown without manure, supplying at the same time the humus for the barley. Shallow ploughing was preferred, particularly on the light soils, as the land was kept cleaner, and as laying it more open to the influence of the atmosphere, taking care, however, never to break the pan,* as the moisture was thought to be better retained, and the land kept in better heart.

The value of MARSHES and PASTURES, particularly of the former, was not then rightly appreciated. For the greater part of the Eastern district, on each side the Yare, and also on the Northern side of the Bure, would not bear a bullock. They were generally under water in winter, and in the summer wretchedly drained. The greater part

* The word used in Norfolk to signify the solid stratum of subsoil which lies beneath the permeable surface soil.

produced only rough sedges and coarse grass, which were mowed and carried into the yards to be trodden into manure, a practice, however, which has been one of the great causes of enriching and keeping the fine soil of the district in its highly fertile state.

The kinds of stock grazed were Homebreds, Scots, and Irish beasts, the two latter principally purchased at Harleston and St. Faith's Fair, and other country fairs. At this period MR. OVERMAN, of Burnham, the father of the present agriculturists at Burnham and Weasenham, declared that "the qualities of cattle were even less understood and had undergone less improvement than the cultivation of the soil. Bones and offal rather than meat being the production of the best grass lands in the county."

The implements were the Norfolk Plough, though not so light in its construction as it is at present; heavy Waggons and Carts, and Hermaphrodites, the latter mostly confined to harvest work, with Cook's drill, a new implement, not much used. The last invention was the Drill Roll, a very recent introduction, and hailed as a great assistance in enabling the seed to be more regularly sown and better covered.

When YOUNG's voluminous report was given to the public in 1804, a change had commenced which in later years has had important influence on the agricultural progression of the county. MR. COKE had for some years directed his mind and his fortune to bring a poor soil into cultivation, by a system then new to agriculturists; and in order to avail him-

self of the advantages which other and more practical minds might afford, he commenced his annual meetings of farmers from all parts of the county, and these were the basis from which the far-famed HOLKHAM SHEEP-SHEARINGS sprung. An alteration had been also gradually taking place in the Western part of Norfolk, by variations in the system of cropping, as well as keeping large flocks of sheep, which enriched the soil by their manure, and rendered it more firm by treading.

The introduction and increased consumption of rape cake as manure for turnips, had likewise begun to have an important influence. For not only was the growth of the turnip improved and increased, but a larger quantity of manure was made by the use of the straw in the yards, instead of its being consumed as food by the stock. In a portion of the West of Norfolk, particularly the district round Swaffham, large dairies of cows were kept, producing a considerable quantity of butter, which was weekly sent to the metropolis, and held in considerable estimation. These dairies had been gradually but slowly exchanged for sheep and beasts, though the latter were grazed only in very small numbers, in consequence of the confined cultivation of the root crop. But the example and success of MR. COKE, and of his enterprising neighbours and tenants, who were following, and in some instances almost preceding his footsteps, were perceptibly gaining ground.

The FIVE-COURSE shift was generally adopted by the best farmers, the seeds laying two years. They had also commenced the system now almost universally pursued,

of ploughing the ollands once, and drilling or dibbling on the flag. The grasses were varied by substituting Trefoil, White Clover, and Ray Grass, for Red Clover, which was found to be a failure if taken oftener than once in ten years, and even then uncertain on some lands; while upon other lands the introduction of peas before wheat gave the soil still longer rest, and to this system many persons attribute the prevalence of the poppy in the light lands of this county.

A third course at that time followed in the mixed soils by an excellent farmer, was the following:—(1) turnips, (2) barley, (3) trefoil, white clover, and ray, (4) olland, (5) wheat, (6) turnips, (7) barley, (8) red clover, (9) wheat.

Another, but not perhaps so good, was:—(1) turnips, (2) barley, (3) seeds, (4) olland, (5) wheat, (6) turnips, (7) barley, (8) seeds, (9) peas, (10) wheat.

A mode also used by a farmer of acknowledged skill, was this—supposing the occupier to have 100 acres in a shift, beginning with the whole hundred acres in turnips:

50 Acres turnips	50 Acres turnips
50 Barley	50 Barley
50 Red clover	50 Trefoil or white clover
50 Wheat	50 Two-years olland
50 Turnips	50 Peas
50 Barley	50 Wheat
50 Trefoil and suckling	50 Turnips
50 Two-years olland	50 Barley
50 Peas	50 Red clover
50 Wheat	50 Wheat.

The principle of this course was, that the land came only once in sixteen years for red clover, instead of once in ten. The farmer thus ensured a better plant, and it was more certain to stand. The land laid in grass three years out of ten, its fertility being aided by the conversion of the decrements of the plants contained in the soil during the fallow season, the argillaceous soils requiring a longer period to produce this change. Two crops of turnips by the course were only taken; but this was not so important, since they kept less stock, than at this period, in the winter, while in the summer the farm carried more artificial grasses, there was more manure in proportion for those parts of the farm which most required it. Less capital was also demanded to keep the land in good tillage, and less laid out in labour.

Now under the first or five course shift the landlord is advantaged, while under the last it is best for the tenant, supposing him to have sufficient capital to enable him to purchase artificial manure; but if that be not the case, then the five-course is most advantageous, inasmuch as it requires less capital, with equal produce, particularly on good soils.

But the main new feature of the Western district was the practice of not taking two white crops in succession, which has had the effect of enabling the farmers to keep the thin-skinned and poor lands in cultivation. And here it will not be at all out of place to remark that there never was a greater mistake than the supposition that the West of Norfolk is principally composed of a light almost "blowing sand." That a portion in certain

districts partakes of that nature is true; but, as my rather minute division of it exhibits, West Norfolk includes a considerable quantity of naturally good silicious soil, abounding in strata of clay and marl, by the proper application of which its cultivation has been most materially aided; while in other parts there are some of as fine arable lands, and of almost as good texture, quality, and staple as in any part of the county.

In the Eastern part two white crops were often taken, the soil being naturally of the finest kind, having been long under cultivation, and enriched not only by the manure from cattle grazed in the yards, but also from the facility which was possessed in obtaining from the tracts of marshes by which it was surrounded, sedges and coarse grass to an enormous extent, which formed not only a part of the food of this stock, but also enabled the farmer greatly to increase his quantity of manure. If any reason can be offered in justification of the practice of taking two white crops in succession, it may be derived from this power of obtaining such large quantities of the produce of reedy and coarse marshes. The stalk of wheat requires for its early and proper growth, silicate of potash; for the ear, phosphates. Now irrigation of meadows conveys silicate of potash to the soil. Upon marshes, in ditches, or where a constant flow of water supplies the dissolved silica, reeds, or any species of rush, &c. which contain silicious earth (that is silicate of potash) in large quantities, thrive well—consequently they contain in a great degree one of the constituents of the wheat plant. The other necessary

ingredient, phosphates, is derived from the foeces of the animals, who obtain it from the oats and hay. "The soil," LIEBIG says, "in which plants grow, furnishes them with phosphoric acid, and they in their turn yield it to the animals to be used in the formation of their bones, and of those constituents of the brain which contain phosphorus. Much more phosphorus is thus afforded to the body than it requires, and this excess is eliminated in the urine and other excrements." The reeds and rushes, in being trod into manure, contain originally one, and absorb the second needful food, and these are returned to the soil for the reproduction of wheat, to such an extent as gives it the power to re-produce this second white crop. There were but few or no sheep kept upon this district, a system which has prevailed until of late years, and still prevails to a certain degree, perhaps not without reason, from a belief that the land would be too much stimulated and the crops increased in straw, but lessened in produce. The effect of this fertility of soil upon the great bulk of the owners and occupiers, was—that not being compelled to have recourse to those expedients and resources to obtain good crops, which it was necessary to the light land farmer of the West to adopt, they remained nearly stationary. The times were good, and prices were gradually rising to an indefinite height; their land was highly productive, and generally facile to work, and the population was not beyond their means of employment. The farm servants were generally boarded in the house, and thus, with no cares of tillage

and no necessity for increased exertion; receiving the plenteousness of the earth, they were content not to search for other, though they might be better and more productive systems.

The DRILL SYSTEM, another of the material introductions, was progressing but slowly, there being great difference in opinion as to its superiority over the dibble. MR. COKE had commenced drilling his turnips, and had also introduced the plan of using the drill for sowing rape cake by an alteration in its means of delivery. The turnips sown were principally the long pudding and white loaf, the swede being of very recent introduction, thirty acres at Holkham being then considered a large quantity.

Upon the strong lands the cultivation of the turnip was held to be impossible, the knowledge of the effect of drainage being in its infancy. The course was a fallow, barley, seeds, wheat dibbled, and then beans, while others sowed peas before the wheat.

In clearing the land of turnips, there was no alteration since Kent's report, the crop being little or partly fed by sheep, and part drawn, or wholly drawn and consumed in the yards by stock, according to the nature of the soil.

In the BREEDS of CATTLE in the county there had been little or no variation; but an increase had taken place in the quantity of stock fattened, consisting mostly of Scots and Longhorns. Devons had just been introduced.

For DRAUGHT HORSES, Norfolk had a higher character than it bears now. The breed were short-legged, strong,

hardy animals, capable of great fatigue. At present the county cannot with truth be said to possess any distinctive race which may be claimed as peculiar to itself.

In AGRICULTURAL MACHINES there had been few improvements. The principal was that of the introduction of drilling the rape cake, then only commenced.

The POSITION of the POOR was comparatively comfortable; employment was plentiful, the wages varying in different districts, but upon the average rating from 20d. to 2s. a day in summer, and from 1s. 6d. to 1s. 9d. in the winter. The custom of not boarding the men had begun, and to this system were attributed the looseness and depravity which had also commenced, and which Mr. Young said would increase, an opinion found of late years to be but too true. Harvest wages varied from £5. 5s. to £7. without board; and about £2. 5s. to £2. 10s. with board.

TENURES

IN PROPERTY AND IN LEASE, GAME, RENTS, AND TITHES.

THE TENURES upon which lands are held in this county are Freehold, Copyhold arbitrary and fine-certain, (these there is a great disposition on the part of some lords to enfranchise), Leasehold under corporate or ecclesiastical bodies, and there has been little or no alteration in the comparative proportions since 1804, which were three-fifths freehold, one-fifth copyhold, and one leasehold. Farms are almost entirely held on lease, the duration of the tenure varying from eight to twelve and twenty-one years, but by far the larger proportion are let for the two former periods, and the terms of these leases generally bind the tenant to follow the four-course system, no material variation being made without permission. The tenants are also bound not to break up pastures, the landlord reserving the timber, pollards, and stands to himself, with the right of sporting. On the heavy lands there are clauses compelling a certain number of ploughings, harrowings, &c. Some estates

are let upon the following terms:—The occupation to be only from year to year, but that eighteen months notice shall be given either by the landlord or the tenant, provided the one either desires to eject the tenant, or the other wishes to give up his occupation. But if the landlord should be the person desiring a change, then it is expressly stipulated that he shall re-pay the outgoing tenant for unexhausted improvements. This system has been followed in some parts of the county, and has the advantage of being a great safe-guard to an enterprising tenant, while it cannot easily be made an instrument of injustice towards a bad one. The clause that in all agreements leaves the tenant most open to injury is that which reserves the exclusive right of sporting.

The quantity and results of the injury done by the GAME rear'd in Norfolk is becoming a matter, not only for serious consideration, but possibly for serious dispute between the Owner and Occupier. The relaxation in respect to qualification which gives to any person who pays for a license and can obtain permission to go over land, the sale of game, and other facilities indulged by the last enactment, have occasioned not only great alterations but great discrepancies. The main effects are these. Where game is not strictly preserved, it has been very soon all but annihilated. In general it is moderately kept up, and in many and strong instances to a most pernicious excess. It seems to be invariably admitted that winged game does little comparative mischief, because pheasants must be abundantly fed to confine them to the coverts; and partridges finding

support from insects and seeds as well as corn, do no very great injury, if kept off the new sown wheats. Hares and rabbits are most perniciously destructive, and the Legislature has expressed its opinion emphatically, by reserving to all tenants the right to destroy the rabbits at pleasure. But this provision is avoided by special clauses. The remedy then lies with the tenant who accedes to such terms. With respect to hares, he is at the mercy of the landlord if he consents to the usual reservation. We repeat that in general the quantity of winged game cannot be considered as very injurious; but then the hares and rabbits upon some estates are preserved to an extent wholly inconsistent with any public or private consideration, except the diversion of the proprietor. Sufficient proof is given in the published reports of battues in various districts, where the common return for the two or three days' shooting is from two to three thousand head. The habits of the country gentlemen carry them much oftener from home than formerly, and the attraction to town friends is the exuberant gratification of field sports thus accomplished. They also visit amongst themselves in distant parts of their own or the neighbouring counties, far oftener than heretofore. Thus the necessity for sporting at home is reduced, and because they enjoy at each others places the same recreations, the game is reserved according to the extent of the estate, and the small number of days when this supreme sport is to be participated by the guests. Now the difficulty arises out of the yet unsettled point of demarcation between the fair and

honest reservation made by the landlord, and the extent to which it may justly be carried. This is in fact decided at present only by the allowed reduction in fixed rents. A game farm is or ought to be hired at a game rent; advantage will in the great majority of instances be on the side of the landlord. Nor is there adequate care exerted in the adjustment to protect the tenant against possible and even probable contingencies. There are instances where the landlords, during the tenant's lease, have from various causes let the right of sporting, and where the game was so abundant—for art had reared enormous quantities—that nearly the entire crop of the land near the coverts has been destroyed. In one case ten acres of barley in a field in the highest state of cultivation, capable of producing from four to five quarters per acre, brought to the barn only twelve coombs and two bushels of ordinary quality. The real landlord had unfortunately fallen from his high estate and could not repay the loss, the game tenant would not, and the farmer suffered to the entire amount. All the tenants upon the domain, a large one, suffered in a considerable degree. In another instance, one proprietor has a clause which prohibits the tenant from drilling his turnips, mowing his wheat, shacking the stubble, or letting the sheep feed the wheat stubbles before October. This instance is probably the only one, but extends over four parishes. Against such accidents and exceptions, as well as against the rights of the owner, which the tenant has no adequate means to resist, some provisions are absolutely indispensable. This is said

in the full perception of the extreme difficulty, not to say the impracticability of limiting the power as well as the rights of property.

Our next subject of enquiry is RENT, which in Norfolk is principally a fixed sum, although the amounts are nearly as variable as the soil; the arable land reaching 50s. and the pasture upwards of £3. The average of the former, however, may be fairly taken at from 20s. to 21s. per acre, over the whole county; and that of the marshes at about 30s. per acre. At the beginning of the war, the rental of Norfolk had risen considerably, and from 1805 to 1816, a further rise took place of from 25 to 30 per cent. on the light lands; in the district of marshland from 60 to 80 per cent. and upon the good soils from 40 to 50 per cent. The ruinous fall of prices, without a reduction in expences, which followed, did not however depress it in the same ratio, the variation being from 10 to 15 and 20 per cent. and the reason was obvious. No sooner was a farm vacant, or likely to become so, than, notwithstanding the distress, such was the number of applicants, that in accepting a tenant, the enquiry was rather not who among the competitors possessed sufficient means or skill to carry on the farm in the most advantageous manner both for the proprietor and tenant, but who would give the highest rent. This state of things must continue so long as the supply is unequal to the demand, for the value of farms will be regulated like every other marketable commodity, by the number of applicants. And perhaps there is one feature in this case which is peculiar to farming. The education and

habits of a farmer render him, if not unfit, at least unwilling to enter trade. His life is one of activity and freedom—that of a commercial man of close confinement. The farmer consequently dislikes not only restraint, but will rarely, till driven by necessity, submit to the controul and dependence of trade. The consequence is, that when thrown out of an occupation, and in search of another, he too often lets his anxiety get the better of his prudence, and will, to use his own words, "take almost anything and upon any terms." This alone has hitherto prevented the reduction of rents, and will still uphold them, for how can any general or beneficial reduction be expected when tenants are always to be obtained—the only difficulty being in the selection? If such was the case in times of low price and high local and public taxation, it was to be anticipated whenever a rise in the price of corn should occur, and when prospects in general should become better, that the increase in the number of applicants, arising from the difficulty of finding means to employ capital, as well as the generally increased population, would be greater and more urgent. The army and the navy, those outlets for the youth of the country, were either inaccessible, or offered no probability of promotion. Trade, commerce and manufactures were equally glutted, and the effect was again to elevate rents. Those of Norfolk in 1843, are estimated to be fully equal to the highest and palmiest days of agriculture, and nothing but a period of alarming distress, in the struggle through which numbers will be swept off, will cause any reduction.

In order to show the exact position of the present rental of the county, relatively to that of former years, I add a statistical document compiled from authentic sources. In this will be found the assessable acres, the gross estimated rental, and the rateable value returned by the parishes, and acted upon under the old assessment until 1842; the new assessment decided upon by the Magistrates for 1843, according to the Income Tax, with certain reductions which amount to 7½ per cent. on lands, 20 per cent. on houses, and 25 per cent. on cottages, and finally the rental paid by each parish under the old and under the new Income Tax for the year ending 1843. This document exhibits the results which appear in the succeeding page :—

TOTAL

OF EACH HUNDRED IN THE COUNTY.

HUNDRED.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Blofield .	19666	39650	33247	39154	26231	43543
Brothercross .	19169	26424	24280	25876	20780	25109
Clavering .	29844	48554	41646	47654	43318	53486
Clackclose .	84333	125123	104134	127184	92049	142703
Depwade .	30491	54549	45652	55526	45832	61991
Diss .	23628	39708	33906	44142	37473	49296
Earsham .	24564	45307	35888	44266	40320	49681
Erpingham N. .	33393	53841	48511	49016	35543	53867
Erpingham S. .	48068	83220	72536	76644	56205	85527
Eynsford .	46637	71553	63614	69082	46259	76334
Flegg East .	11556	23063	20318	25822	18617	28691
Flegg West .	13479	25777	22712	29128	18322	32875
Forehoe .	39042	74014	61620	71384	56618	80379
Freebr. Lynn .	68366	72500	69339	77656	69631	88422
Freebr. Marshl. .	53908	105528	86999	106252	102054	117342
Gallow .	42480	67018	57974	61282	54190	67868
Greenhoe N. .	30483	50243	43059	46548	37102	45413
Greenhoe S. .	57921	62391	51540	62304	55144	69330
Grimshoe .	57309	40530	34952	40772	40244	45372
Guildercross .	26828	31609	28203	33356	34659	37436
Happing .	26780	43548	39403	43558	26101	48818
Henstead .	19086	35068	31468	36484	25542	40559
Holt .	35294	47166	44933	50920	32459	55893
Humbleyard .	21355	39074	32695	37388	27280	41774
Launditch .	56006	70234	69603	79660	59165	86938
Loddon .	27838	48225	40630	46340	41301	51704
Mitford .	32133	65428	51813	62244	46600	64962
Shropham .	44944	49605	43771	49256	56335	55168
Smithdon .	43786	49414	44574	48028	50272	52278
Taverham .	30600	40401	34900	41084	27422	45772
Tunstead .	34696	65599	58246	62870	39139	50595
Walsham .	24058	49744	40605	44156	27061	49026
Wayland .	31076	43424	36622	43406	48709	47406
Grand Total .	1168807	1787822	1548693	1778422	1439977	1945558

As these Statistics are important, I add the details of every Parish under the different Hundreds.

BLOFIELD.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1848.	Assessment under old Property Tax.	Under Income Tax of 1842.
Blofield	2277	6177	5554	6268	4168	7042
Bradestone	513	1102	793	960	559	1047
Brundall	525	826	688	772	507	858
Buckenham	908	1327	1035	1034	607	1154
Burlingham St. Andrew	869	1978	1628	2102	2265	2335
Burlingham St. Edmund	646	1512	1053	1310		1456
Burlingham St. Peter	399	1089	878	948	602	1053
Cantley	1788	2649	2233	2322	2048	2580
Freethorpe	846	1821	1594	1806	1055	2006
Hassingham	562	896	760	760	519	830
Limpenhoe	1010	1487	1280	1580	738	1755
Lingwood	643	1918	1535	1816	1041	2017
Plumstead Great	1383	2638	2228	3176	1951	3529
Plumstead Little	1375	2664	2419	2476	2008	2752
Postwick	1762	3156	2652	2936	2580	3263
Southwood	471	911	840	840	567	886
Strumpshaw	1319	2258	1740	2362	1322	2644
Thorpe next Norwich	1804	3768	3220	4490	2776	5006
Witton	576	1273	1117	1196	918	1330
	19666	39650	33247	39154	26231	43543

BROTHERCROSS.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Assessment under Income Tax of 1842.
Burnham Deepdale	1014	1335	1287	1260	808	1400
Burnham Norton	1151	1235	1165	1444	1085	1605
Burnham Overy	1863	4030	3505	3504	2553	3360
Burnham Thorpe	2321	2818	2520	2594	2466	2882
Burnham Ulph and Sutton	1450	2110	1941	1940	1477	1611
Burnham Westgate or Burnham Market }	3038	5718	5356	5356	4033	4807
Creake North	3528	4242	4042	4330	3816	3392
Creake South	4041	4029	3681	4666	3587	5185
Waterden	763	907	783	782	955	867
	19169	26424	24280	25876	20780	25109

CLAVERING.

Aldeby	3041	3654	3181	4236	3867	4706
Bergh Apton	1924	3528	3258	3380	3274	3764
Brooke	2049	3634	3247	3676	4013	4275
Burgh St. Peter	1979	2850	2497	3024	2575	3419
Ellingham	1302	1767	1634	2338	2092	2597
Geldestone	819	2025	1699	1932	1292	2425
Gillingham All Saints }	1962	3466	2738	1464	2986	1625
Gillingham St. Mary }				1730		1928
Haddiscoe	2066	2741	2448	3320	2957	3687
Haddiscoe Thorpe	807	1368	1077	1252	1091	1392
Hales	912	1741	1581	1646	1394	1829
Heckingham	1084	1678	1480	1480	1367	1627
Howe	766	1222	1143	1100	916	1165
Kirby Cane	1467	2623	2134	2552	2285	2760
Norton Subcourse	1849	3180	2575	2674	2124	2972
Raveningham	2288	3417	3140	3140	3186	3419
Stockton	1023	1494	1359	1412	1352	1570
Thurlton	1170	2316	1886	2074	1522	2305
Toft Monks	2195	3510	3162	3898	3419	4331
Wheatacre All Saints	1141	1634	1407	1526	1606	1695
	29844	48854	41646	47644	43318	53466

CLACKCLOSE.

PARISH or PLACE.	Assessable Acrea.	Gross Estimated Rental.			Assessment in 1843.	Assessment under old Property Tax.		
		£.	£.	£.		£.	£.	£.
Barton Bendish	3989	3830	3394	3632	2821	4276		
Beachamwell	4098	1658	1406	1492	2605	1657		
Bexwell	1104	1735	1476	1546	1385	1717		
Boughton	1229	1885	1614	1788	1880	1986		
Crimpleaham	1573	2935	2555	3064	2258	3404		
Denver	2976	5797	5090	6230	4421	6847		
Dereham West	3240	4580	3853	4230	3244	4699		
Downham	2286	8924	7486	9440	5234	11447		
Fincham	2911	5076	4282	5052	3964	5624		
Fordham	2162	2625	1976	1976	1846	2173		
Hilgay	7583	12095	8091	9626	6415	10695		
Holme	1011	1308	1049	1400	1453	1638		
Marham	3670	4073	3416	4526	3286	5170		
Outwell	2124	4830	4225	4952	3324	5502		
Roxham	566	678	570	570	440	595		
Runceton South	753	1080	932	1084			1204	
Ryston	566	1011	866	866	644	930		
Shingham	824	279	238	268		297		
Shouldham	3581	3594	3091	3762	3439	4180		
Shouldham Thorpe	1289	1773	1599	1808	1514	2009		
Southery	4281	3701	3375	5280	3059	5866		
Stoke Ferry	1881	3253	2760	3576	3115	4961		
Stow Bardolph	5695	7498	6697	6636	3892	6733		
Stradsett	1236	1765	1568	2042	1509	2268		
Tottenhill	1463	2188	1885	2334	1592	2593		
Upwell	8398	14177	12444	16000	12236	18466		
Watlington with Thorpland . .	1256	1719	1527	1880	1291	2088		
Watlington	1633	3360	2789	3422	3762	3824		
Welney	3188	4848	4313	5948	2548	6609		
Werham	2145	4233	3488	4382	2927	4891		
Wimbotsham	1771	2478	2150	3118	1993	3465		
Wormegay	2749	3025	2545	3088	2608	3448		
Wretton	1102	2113	1884	2106	1340	2341		
	84333	125123	104134	127184	92049	142703		

DEPWADE.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.		Rateable Value.	Assessment in 1848.	Assessment under old Property Tax.	Under Income Tax of 1842.
		£.	£.				
Ashwellthorpe	806	1627	1448	1842	1377	2047	
Aslacton	1163	1907	1708	1994	1733	2215	
Bunwell	2423	4205	3753	3778	3679	4198	
Carleton Rode	2573	4602	4232	4960	4036	5539	
Fornecott St. Mary	731	1266	1068	1556	1202	1728	
Fornecott St. Peter	1851	3767	3039	3942	2868	4381	
Fritton	818	1699	1276	1442	1383	1602	
Fundenhall	1848	2529	1992	2358	1886	2621	
Hapton	657	1069	856	1028	1012	1143	
Hardwick	855	1306	1122	1294	1453	1437	
Hempnall	3583	5643	4542	5930	4041	6637	
Moulton	1346	2344	2041	2614	1748	2913	
Mourningthorpe	921	1882	1588	1746	1210	1960	
Shelton	1176	1880	1669	1824	1914	2026	
Stratton St. Mary	1268	2560	2283	3108	2590	3577	
Stratton St. Michael	1050	2500	1863	2070	1232	2299	
Tacolnestone	1396	2370	2036	2572	2227	2857	
Tasburgh	874	2156	1653	1932	1836	2146	
Tharston	1502	2654	1989	2922	2553	3295	
Tibbenham	3254	5129	4253	5068	4372	5654	
Waeton	896	1454	1241	1526	1480	1716	
	30491	54549	45652	55528	45832	61991	

DISS.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Value.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Bressingham	2287	2064	2329	3644	3525	4048
Burton	1405	2310	1984	2456	1860	2729
Dickleburgh with Langmere	2055	3489	3083	3082	3239	3185
Diss	3382	8978	7543	10700	6999	12127
Fersfield	1313	1746	1635	1912	1880	2124
Gissing	1907	3560	3236	2882	3219	3222
Roydon	1217	1887	1720	2620	1992	2911
Soole or Osmondston, with Frenze and Thorpe Parva }	1454	1956	1728	2628	1327	2939
Shelfanger	1637	2105	1945	2428	2329	2697
Shimpling	670	979	856	1232	1310	1385
Thelveton	1001	1486	1268	1482	1519	1647
Tivetshall St. Margaret	1639	2893	2117	2766	2788	3088
Tivetshall St. Mary	1095	2236	1558	2100	1872	2334
Winfarthing	2566	3124	2904	4210	3614	4860
	23628	39708	33906	44142	37473	49296

EARSHAM.

Alburgh	1514	2634	2299	2800	2393	3099
Billingford	934	1403	1112	1954	1679	2196
Brockdish	1054	2676	1767	2272	1491	2524
Denton	2434	4183	3710	4036	3655	4511
Earsham	2718	4333	3237	4964	4139	5566
Mendham	780	1692	1503	1814	4471	1446
Needham	1200	1674	1528	2086	1600	2318
Pulham St. Mary Magdalene	2892	6019	4280	4896	3885	5893
Pulham St. Mary the Virgin	2958	5793	4068	5272	3828	5667
Redenhall with Harleston	2539	6005	4869	6080	5677	7046
Rushall	1149	1722	1503	1502	1264	1472
Starston	2167	3350	3014	3230	3130	3588
Thorpe Abbotts	1123	1725	1510	1698	1643	1886
Wortwell	1102	2098	1493	2162	1465	2470
	24564	45307	35888	44266	40320	49681

ERPINGHAM NORTH.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1845.	Assessment under old Property Tax.	Property Tax Under Income Tax of 1862.
	£.	£.	£.	£.	£.	£.
Aldborough	768	1698	1566	1648	1108	1835
Antingham	1490	1987	1864	1864	1417	2006
Aylmerton	1180	1424	1373	1372	996	1247
Barningham Norwood	797	923	890	890	754	866
Barningham Winter or Town	740	899	773	854	803	967
Beckham East	714	683	653	652	450	579
Beeston Regis	740	932	708	728	888	812
Beassingham	508	993	896	896	586	993
Cromer	628	4264	3860	3860	1673	4555
Felbrigg	1205	1344	1268	1268	1097	1250
Gimingham	1453	2493	2213	2388	1623	2686
Gresham	1412	1729	1582	1582	1137	1736
Gunton	911	1128	1025	1008	736	1226
Hanworth	1165	2010	1835	1834	1293	1771
Knapton	1461	2803	2604	2622	1800	2791
Matlask	467	893	758	788	508	791
Metton	641	815	783	782	495	707
Mundesley	563	1865	1634	1670	900	1931
Northrepps	2541	3260	3015	3014	2620	3137
Overstrand	423	682	636	636	389	683
Plumstead	1166	1083	913	1016	719	1005
Roughton	1333	1522	1399	1428	1110	1633
Runton	1142	1548	1357	1356	1206	1522
Sheringham	1741	3009	2574	2574	2023	2850
Sidestrand	429	699	656	674	503	732
Southrepps	2018	8561	3186	3186	2624	3553
Suffield	1442	2135	1772	1772	1357	1960
Sustead	486	761	735	734	543	730
Thorpe Market	1088	1293	1197	1196	1178	1145
Thurgarton	950	1965	1749	1748	905	1924
Trimingham	498	861	791	750	471	874
Trunch	1293	2589	2246	2246	1686	2370
	33393	53841	48511	49016	35548	53867

ERPINGHAM SOUTH.

PARISH OR PLACE.	Assessable Area.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Income Tax Under of 1842.
Alby	715	1403	1250	1448	839	1610
Aylsham	4102	10916	9171	10478	7233	12071
Baconthorpe	1348	1739	1552	1638	1557	1819
Banningham	908	1872	1398	1680	1434	1867
Barningham Little	1225	1370	1196	1196	994	1202
Beckham West	723	736	695	1034	671	1148
Belaugh	826	1074	909	1072	986	1192
Blickling	2081	2741	2444	2444	1605	2771
Booton	1011	1462	1367	1730	1150	1923
Brampton	482	1028	886	990	547	1009
Burgh next Aylsham	789	1776	1563	1562	1131	1644
Buxton	1204	2936	2567	2824	1506	3203
Calthorpe	1028	1772	1634	1656	1287	1839
Cawston	3805	5312	4601	4248	3698	4720
Colby	1075	2035	1763	1870	923	2077
Coltishall	1129	3647	3175	3412	2518	3974
Corpusty	927	1433	1194	1340	1679	1488
Erpingham	1348	2917	2557	2608	1697	2897
Hautboys Great	589	1019	918	936	665	1039
Hevingham	2793	3443	3113	3400	1973	3777
Heydon	1717	1908	1675	1660	1981	1843
Ingworth	496	1085	907	956	723	1062
Irmingland	704	986	840	840	891	
Itteringham	1442	2020	1771	1814	1342	1991
Lammas with Little Hautboys	811	1711	1456	1634	1434	1816
Mannington	548	630	590	590	398	543
Marsham	1384	2478	2101	2214	1672	2512
Oulton	1675	2126	1898	1898	1615	2105
Oxnead	641	1247	1112	1244	804	1382
Saxthorpe	2073	2884	2632	1952	2134	2168
Scot tow	2068	3963	3505	3504	2775	3742
Skeyton	1227	2281	1968	2018	1461	2286
Stratton Strawless	1217	1710	1496	1636	857	1818
Swanton Abbott	946	1690	1607	1700	1404	1888
Thwaite	482	757	718	1044	777	1159
Tuttington	822	2040	1571	1620	1129	1801
Wickmere	975	1789	1603	1612	1145	1792
Wolerton	722	1284	1133	1142	761	1268
	48058	83220	72586	76644	56205	85527

EYNSFORD.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.		Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.		Income Tax of 1842.
		£.	£.			£.	£.	
Alderford	429	689	623	656	532	728		
Bawdeswell	1163	2361	2118	2118	965	2209		
Billingford	1797	2259	2072	2072	1680	2274		
Bintry	1417	2317	2104	2104	1564	2296		
Brandistone	737	1344	1130	1276	807	1417		
Bylaugh	1545	1098	969	968	1094	988		
Elsing	1407	2378	2191	2190	1650	2188		
Foulsham	3180	6340	5695	5796	4708	6488		
Foxley	1619	2353	2180	2170	1436	2356		
Guestwick	1625	2154	1988	2158	1519	2397		
Guist	1637	2627	2395	2664	1395	2960		
Hackford next Reepham	809	2927	2563	2600	3231	3492		
Haveringland	2000	1455	1364	1770	1252	1966		
Hindolveston	2487	3463	3044	3352	2886	3741		
Lyng	1879	3119	2845	2844	1863	3097		
Morton	976	875	601	834	597	1116		
Reepham with Kerdiston	2423	4424	3346	4420	2936	4912		
Ringland	1119	928	881	1436	674	1596		
Sall	1758	2860	2673	2812	1920	3125		
Sparham	1666	2146	1773	2274	1387	2526		
Swannington	1281	1586	1432	1814	1368	2016		
Themelthorpe	652	897	882	884		983		
Thurning	1485	2058	1932	1932	1581	2006		
Twyford	522	968	866	908	501	1017		
Weston	2697	3970	3182	3596	2293	3996		
Whitwell	1434	2972	2686	2686		2322		
Witchingham Great	2083	3792	3539	3762	3052	4181		
Witchingham Little	714	1118	1071	1106	1133	1228		
Wood Dalling	2396	3366	3014	3382	2627	3757		
Wood Norton	1700	2696	2455	2498	1608	2776		
	46637	71553	63614	69082	48259	76334		

FLEGG EAST.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Income Tax Under of 1832.
		£.	£.			
Caister next Yarmouth . . .	2689	4881	4433	5876	4106	6528
Filby	1191	2789	2468	3026	2502	3362
Mautby	1626	2759	2552	2854	2206	3172
Ormesby St. Margaret with } Scrathy	1559	3746	3397	4500	4101	6832
Ormesby St. Michael . . .	590	1396	1245	1648		
Runham	1522	2538	2268	3306	2343	3673
Stokesby with Herringby . .	1804	3323	2979	3438	2616	3820
Thrigby	575	1121	976	1174	743	1304
	11556	23053	20318	25822	18617	28691

FLEGG WEST.

Ashby with Oby	1343	2399	2145	2412	2104	2680
Billockby	376	751	683	900	497	1000
Burgh St. Margaret	1451	2657	2517	3406	1555	3785
Clippesby	802	1725	1418	1682	1196	1869
Hemsby	1627	3871	3105	3922	2328	4357
Martham	2281	4599	3924	5490	3014	6366
Repps with Bastwick	1179	2195	2033	2092	1722	2325
Rollesby	1407	2491	2381	3330	2038	3689
Somerton East	768	1335	1213	1290	1029	1534
Somerton West	1101	1782	1559	1786	1104	2054
Thurne	582	1115	1001	1252	599	1391
Winterton	562	857	733	1566	1136	1815
	13479	25777	22712	29128	18322	32875

FOREHOE.

PARISH or PLACE.	Assessable Acres.	Assessment in 1843.			Assessment under old Property Tax.			Income Tax of 1842.	
		Gross Estimated Rental.	Rateable Value.	£.	£.	£.	£.	£.	£.
Barford	1059	2251	1834	2478	1442	2753			
Barnham Broom	1710	3094	2686	3122	2583	3480			
Bawburgh	1362	2634	2046	2142	1940	3031			
Bowthorpe	600	600	559	586					
Brandon Parva	950	1664	1436	1494	1464	1660			
Carleton Forehoe	688	1169	1078	1078	1036	1091			
Colton	893	1620	1347	1448	1383	1608			
Costessey	2648	4209	3186	3934	3191	4883			
Coston	353	544	475	474	355	509			
Crownthorpe	671	1014	881	938	826	1042			
Deopham	1626	3014	2704	2704	2067	2929			
Easton	1557	1946	1669	1824	1321	2026			
Hackford	721	1314	1069	1300	1144	1452			
Hingham	3525	8174	6958	8224	6725	9326			
Honingham	2527	3132	2594	2962	2333	3292			
Kimberley	1372	2276	2090	2150	2391	2429			
Marlingford	617	1313	1050	1178	692	1310			
Morley St. Botolph	819	1614	1351	1568	995	1742			
Morley St. Peter	1009	1720	1469	1692	1171	1880			
Runhall	761	1330	1144	1176	980	1306			
Welborne	738	1329	1166	1294	1043	1438			
Wicklewood	1527	2755	2283	2906	2375	3268			
Wramplingham	830	1748	1417	1678	1067	1865			
Wymondham	10484	23550	19101	23014	18094	26059			
	39042	74014	61620	71364	56618	80379			

FREEBRIDGE LYNN.

PARISH OR PLACE.	Assessable Acres.	Assessment in 1848.				Assessment under old Property Tax	Income Tax of 1842. Under
		Gross Estimated Rental.	Rateable Value.	£.	£.		
Anmer	1257	936	800	1104	1200	1228	
Ashwicken	1157	1073	1017	1016	1261	1112	
Babingley	755	732	687	698	874	776	
Bawsey	603	465	386	464	631	515	
Bilney West	2202	2197	2071	2070	1680	2267	
Castle Acre	2917	4608	4057	4406	3954	4964	
Castle Rising	2028	2164	1718	1764	1400	1959	
Congham	2455	2381	2231	2592	2604	2880	
Dersingham	2951	2815	2746	3302	3367	3670	
Flitcham with Appleton	4108	3215	3214	3054	3491		
Gayton	3143	3779	3563	3838	3200	4265	
Gayton Thorpe	1911	1318	1111	1128	1518	1252	
Gaywood	2101	4743	4398	6062	3273	6773	
Grimstone	3470	3728	3469	3834	3198	4326	
Harpley	2176	2472	2278	2430	2032	2701	
Hillington	2437	1887	1612	1764	1934	1961	
Leziate	1140	988	926	1326	1291	1473	
Massingham Great	4108	4540	4103	4372	4442	4857	
Massingham Little	2028	2332	1994	2216	2412	2463	
Middleton	2984	4552	4316	4682	3667	5202	
Mintlyn	720	793	759	886	1125	984	
Newton West	1177	1064	940	1080	1027	1201	
Pentney	2534	2009	1876	2574	2161	2860	
Roydon	526	690	540	792	657	879	
Runcoton North	1329	2808	2572	2900	2371	3226	
Sandringham	1110	539	537	536	441	582	
Setchey or Setch	790	1254	1153	1248	1172	1386	
Walton East	2107	1435	1274	1602	1483	1780	
Westacre	3338	3126	2792	2792	2564	3090	
Winch East	2410	2825	2483	2682	2132	2980	
Winch West	1184	2732	2535	2860	2100	3198	
Woolverton	2569	2070	1972	2052	2337	2279	
Woodton North	1535	1972	1862	1876	1728	2084	
Woodton South	1106	1473	1336	1496	1348	1662	
	68366	72500	69339	77656	69631	88422	

FREEBRIDGE MARSHLAND.

PARISH OR PLACE.	Assessable Acrea.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Clenchwarton	2816	4805	4295	5510	4827	6123
Emneth	3344	7062	5172	7100	5549	7888
Lynn North St. Edmund . .	682	1275	1094	1094		
Lynn West St. Peter . .	1164	2496	2077	3708	4504	4121
Terrington St. Clement . .	7444	14529	12629	15366	18067	17073
Terrington St. John . .	2306	5009	4330	5330	4917	5922
Tilney All Saints	2476	4219	3519	5094	5397	5661
Tilney cum Islington . .	1614	3094	2622	2852	3936	3170
Tilney St. Lawrence . . .	3288	6177	5375	5948	5855	6610
Walpole St. Andrew . . .	2293	3746	3555	4516		
Walpole St. Peter . . .	7876	11114	10521	14132	16799	15703
Walsoken	4635	12718	10118	11362	9892	13134
Walton West	5157	11261	9810	9810	8309	10886
Wiggenhall St. Germaine .	1214	2717	2230	2796	2433	3106
Wiggenhall St. Mary Magdalen	4032	5381	4678	4652	5896	5798
Wiggenhall St. Mary Virgin	2683	4270	3582	5218	4264	5170
Wiggenhall St. Peter . .	884	1655	1392	1764	1409	1959
	53908	101528	86999	106252	102054	117342

GALLOW.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value. £.	Assessment in 1843. £.	Assessment under old Property Tax. £.	Under Income Tax of 1842. £.
		£.				
Alethorpe	237	220	187	260	422	288
Bagthorpe	750	749	681	680	757	749
Barmer	1280	1185	1102	1102	1278	1173
Basham East	1048	1178	1020	1578	1482	1754
Basham North	1005	1683	1561	1560	1299	1648
Basham West	1520	1789	1677	1676	2245	1689
Broomsthorpe	430	460	434	434	450	453
Duntown cum Doughton	1549	1981	1801	1800	1773	1892
Fakenham	1997	9911	8058	8102	5677	9659
Fulmodeston with Croxton	2314	3166	2861	2860	2049	3170
Heilhoughton	1638	2866	2287	2286	1582	2035
Hempton	370	1082	890	912	566	1013
Houghton in the Break	1120	1145	1036	1036	1259	1137
Kettlestone	629	1169	1108	1300	1207	1444
Pensthorpe	724	866	791	790	705	869
Pudding Norton	755	960	900	990	1310	1100
Rainham East	1607	2702	2555	2554	1572	2875
Rainham South	1036	1791	1390	1240	1057	2278
Rainham West	1270	2671	2149	2148	1635	2122
Rudham East	3779	3784	3455	4388	3594	4820
Rudham West	2438	2616	2390	2940	3070	3267
Ryburgh Great	1488	2362	2186	2360	2785	2677
Ryburgh Little	873	1294	1201	1268	1238	1409
Sculthorpe	2049	3439	3137	3404	3163	3816
Shereford	823	1224	924	940	876	1045
Snoring Little	1518	2508	1839	1876	1478	2084
Stibbard	1421	2066	1940	2160	1851	2401
Syderstone	2308	2336	2188	2408	2846	2675
Tatterford	960	1660	1322	1378	911	1531
Tattersett or Gatesend	1757	3094	2441	2440	1780	2696
Testerton	621	986	851	850	713	815
Tofrees	1166	2075	1612	1612	1560	1484
	42480	67018	57974	61282	54190	67868

GREENHOE NORTH.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1838.	Assessment under old Property Tax.	Income Tax of 1842.
Barney	1174	1857	1487	1668	1289	1853
Binham	2241	3461	3283	3282	2525	2723
Cockthorpe	500	739	685	684	582	636
Egmore	1140	1523	1392	1370	1745	1519
Field Dalling	1532	1537	1307	2262	2000	2513
Hindringham	3314	7206	5616	5616	4100	5722
Holkham	3652	4294	3225	3622	3712	4024
Houghton in the Dale, with Quarles	946	1629	1198	1294	1186	1438
Snoring Great	1585	1804	1718	2540	2725	2823
Stiffkey	2235	3306	2677	2676	1710	2694
Thursford	1222	1421	1249	1604	1389	1782
Walsingham Great	2367	3231	3003	3002	2728	3013
Walsingham Little	952	2811	2533	2532	2553	2607
Warham All Saints and St. Mary	3185	2676	2372	2400	2088	2667
Wells next the Sea	1505	8712	7709	7708	4471	7643
Wighton	2883	4036	3605	3604	2299	3396
	30483	50243	43059	46548	37102	45413

GREENHOE SOUTH.

PARISH OR PLACE.	Rateable Acres.	Gross Estimated Rental.		Rateable Value.		Assessment in 1843.	Assessment under old Property Tax.	Income Tax of 1842.
		£.	£.	£.	£.			
Bodney	2538	1035	877	1232	1000	1368		
Bradenham East	2388	2567	2321	2870	2828	3190		
Bradenham West	1703	2872	1919	2682	2140	2980		
Caldecote	662	258	233	252	468	280		
Cockley Cley	4160	1303	1101	1140	1253	1266		
Cressingham Great	2391	2252	1868	2272	2367	2524		
Cressingham Little	1504	1617	1389	1766	1776	1963		
Didlington	1322	700	527	612	870	681		
Foulden	3354	3398	2819	2818	2235	2696		
Gooderstone	2743	3046	2119	2490	1558	2766		
Hilborough	2807	1839	1436	1664	2000	1848		
Holme Hale	2547	3595	2967	3876	3363	4306		
Houghton on the Hill	600	792	701	800	556	880		
Langford	1248	534	445	472	539	524		
Narborough	3512	2712	2461	3664	2453	4072		
Narford	1872	1377	1144	1350	1118	1500		
Necton	3316	4627	3817	5430	4190	6034		
Newton	1005	1308	1151	1290	1021	1433		
Oxborough	2317	1769	1457	2150	2782	2390		
Pickenham North	1516	1524	1282	1730	1260	1922		
Pickenham South	1751	1221	996	1546	1161	1717		
Southacre	2312	2250	1947	2130	3366	2367		
Sporle with Palgrave	4153	6830	5364	5364	3622	5820		
Swaffham	6200	12965	11199	12704	11218	14803		
	57921	62391	51540	62304	55144	69330		

GRIMSHOE.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
	£.	£.	£.	£.	£.	£.
Brandon				84		
Buckenhamb Tofts	552	195	175	174	614	179
Colvestone	750	308	261	310	609	344
Cranwich	1549	708	595	676	949	751
Croxtoun	4592	2222	1778	2168	1625	2408
Feltwell St. Mary and St. Nicholas }	9639	10046	8944	8812	7155	9791
Hockwold cum Wilton	6569	5337	4240	6480	595	7200
Ickburgh	1349	621	497	604	1076	671
Lynford	1079	447	383	502	791	557
Methwold	12959	9078	7916	8694	9211	9661
Mundford	1609	1335	1093	1300	1088	1505
Northwold	4893	5955	5235	6262	5842	7061
Santon	1500	243	231	278	445	310
Stanford	2183	566	503	614	773	682
Sturston	1802	422	336	386	559	429
Tofta West	2292	836	711	710	1133	782
Weeting with Broomhill	3992	2211	2054	2718	2424	3021
	57309	40530	34952	40772	40244	45372

GUILTCROSS.

Banham	3714	6720	5818	6772	8435	7724
Blo' Norton	1081	2160	1647	1884	1665	2093
Garboldisham	1958	3802	3340	4066	4172	4531
Gasthorpe	825	476	425	538	456	598
Harling East	2458	3938	3296	3668	3748	4222
Harling West	3166	1220	1108	1108	1177	1229
Kenninghall	3524	5750	5187	6236	6226	7120
Lopham North	1966	2968	2616	3236	5702	3614
Lopham South	1651	1955	1778	2362		3380
Quiddenhamb	1038	1182	1092	1092	1440	1212
Riddlesworth	1137		575	574	673	603
Rushford	2264	775	700	700		
Snarehill Great	1666	384	380	380	965	1110
Snarehill Little	380	270	241	240		
	26828	31609	28203	33356	34659	37436

HAPPING.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.		Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
		£.	£.				
Brumstead	768	1307	1230	1242	799	1139	
Catfield	2216	2845	2648	2648	2041	1539	
Happisburgh	1917	4342	3818	3998	2234	3565	
Hempstead with Eccles	1131	1935	1742	1836	834	1691	
Hickling	4020	5313	4787	4786	2511	4476	
Horsey	1588	1032	814	1242	420	1379	
Ingham	1440	2994	2616	2616	1401	2447	
Lessingham	629	1197	1084	1080	572	961	
Ludham	2678	4934	4670	4724	4199	4533	
Palling	788	1570	1400	1630	792	1551	
Potter Heigham	2347	3033	2765	3356	2168	3225	
Ruston East	2086	4482	4186	5078	2720	4702	
Stalham	1277	2413	2087	3374	1864	3346	
Sutton	1310	2309	2061	2240	1300	2116	
Walcot	674	1679	1495	1582	862	1398	
Waxham	1911	2163	2000	2126	1384	2050	
	26780	43548	39403	43558	26101	48818	

HENSTEAD.

Arminghall	609	1079	976	1148	1163	1275
Bixley	639	1312	1180	1516	1408	1685
Bramerton	621	1576	1402	1422	852	1580
Caister St. Edmund	1020	1743	1571	1616	1415	1828
Framingham Earl	611	881	809	808	968	895
Framingham Pigot	565	1046	950	1524	1016	1693
Holvestone	331	596	526	526	426	517
Kirby Bedon	1329	2725	2478	2588	1404	2876
Poringland Great and Little	1452	2425	2080	2900	1794	3223
Rockland St. Mary	1210	2217	2122	2228	1246	2475
Saxlingham Nethergate	1530	2630	2358	3296	2503	3663
Saxlingham Thorpe	456	1094	854	1114	668	1237
Shottisham All Saints	1523	2218	2086	2538	1821	2820
Shottisham St. Mary and St. Martin	1615	2827	2630	3312	2035	3795
Stoke Holy Cross	1603	3154	2777	2974	2434	3304
Surlingham	1767	2984	2609	2816	1672	3208
Trowse with Newton	1121	2814	2511	2510	1801	2770
Whitlingham	555	705	596	666	866	739
Yelverton	529	1037	953	952		976
	19086	35068	31468	36484	25542	40559

HOLT.

PARISH OR PLACE.	Assessable Acre.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Bale or Baithley	997	1331	1253	2440	980	2711
Blakeney	988	2259	2013	2026	1468	2418
Bodham	1506	1721	1453	1786	1356	1985
Briningham	1138	2101	1886	1956	1336	2173
Brinton	615	1143	966	1068	773	1186
Briston	2410	3161	2768	3460	2319	3878
Cley next the Sea	2167	3996	3523	3500	1846	3745
Edgefield	2304	2777	2597	2596	1730	2408
Glandford with Bayfield	1035	1468	1309	1308	1036	1451
Gunthorpe	1060	2181	1729	1910		2122
Hempstead	1737	2254	1760	1760	1406	1777
Holt	2160	4759	4384	5614	2802	6469
Hunworth	804	742	646	898	569	997
Kelling	1772	2000	1471	1516	818	1685
Langham	1589		1692	2196	1408	2439
Letheringsett	844	1910	1732	1746	772	1941
Melton Constable with Burgh } Parva	1284	1766	1312	1664	1306	1848
Moreton	1578	1491	1398	1398	852	1463
Salthouse	832	1548	1156	1156	819	1187
Saxlingham near Holt	1467		1447	1446	1348	1580
Sharrington	831	1257	1157	1312	1211	1457
Stody	1278	1334	1167	1196	793	1330
Swanton Novers	1320	1877	1525	1778	1085	1975
Thornage	1215	2177	1953	2088	1507	2350
Weybourne	1459	1883	1699	1698	979	1757
Wiveton	904		937	1404	776	1561
	35294	47166	44933	50920	32459	55893

HUMBLEYARD.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Bracon Ash	943	2007	1468	1696	1410	1885
Carleton East	1116	2169	1902	1894	1224	2159
Colney	917	1211	1131	1340	1020	1490
Cringleford	981	2110	1504	1842	1270	2047
Dunston	553	931	868	868	637	953
Flordon	831	1407	1247	1280	1218	1422
Hethel	1416	2471	1814	2160	1812	2400
Hethersett	2635	5942	4317	5836	4156	6485
Intwood	534	780	691	700	595	821
Keswick	640	1598	1105	1218	1085	1425
Ketteringham	1585	2245	2065	2076	1599	2307
Melton Great	2455	3771	3498	3554	2711	3949
Melton Little	661	1366	1188	1400	908	1556
Markshall or Mattishall Heath	528	689	626	678	603	754
Mulbarton	1265	2771	2530	3148	1191	3560
Newton Flotman	1172	1995	1716	1864	1574	2071
Swainsthorpe	785	1394	1289	1428	1095	1587
Swardestone	836	1757	1491	1898	1200	2117
Wrenningham	1502	2460	2145	2508	1972	2786
	21355	39074	32595	37388	27280	41774

LAUNDITCH.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax in 1842.
	£.	£.	£.	£.	£.	£.
Beeston with Bittering . . .	2396	3810	3472	3472	2535	3320
Beetley	1693	1786	1695	2040	2302	2267
Bilney East	531		503	748	553	832
Brisley	1201		1395	2086	1301	2317
Colkirk	1307	2071	1809	2326	1208	2584
Dillington	438	413	373	552		614
Dunham Great	1967	3450	3133	3132	2295	3327
Dunham Little	1818	3046	2144	2788	1990	3098
Elmham North	4401	5966	5435	5684	4401	6390
Fransham Great	1874	2351	2004	3090	1803	3433
Fransham Little	967	1465	1305	1664	1068	1850
Gateley	1477	1486	1277	1756	1437	1951
Gressenhall	2582	4425	4004	4160	2917	4622
Hoe	1345	1505	1384	1780	1525	1977
Horningshaw	1886	1826	1693	1964	1392	2183
Kempstone	809	1160	1064	1064	657	1026
Lexham East	1048	729	679	1064	1350	1183
Lexham West	1126	795	754	754	827	751
Litcham	1717	3148	2667	2772	2300	3174
Longham	1248	1272	1114	1234	988	1371
Mileham	2825	4199	3830	3982	2373	4425
Oxwick with Patesley . . .	1027	1568	1451	1512	1189	1680
Rougham	2520	3091	2791	2962	3317	3292
Scarning	3870	4117	3907	4694	3504	5216
Stanfield	921	1533	1349	1554	963	1727
Swanton Morley	2649	4350	3916	4344	3459	4853
Tittleshall with Godwick . .	3020		4021	4424	3586	4015
Weasenham All Saints . . .	1957	2783	2571	2570	1758	2716
Weasenham St. Peter . . .	1397	2198	2030	2030	1714	2049
Wellingham	1047	1452	1323	1322	1066	1401
Wendling	1331	1643	1551	2552	1562	2835
Whissonsett	1328	2596	2330	2596	1376	2961
Worthing	783		629	988	449	1098
	56006	70234	69603	79660	59165	86938

LODDON.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.		Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
		£.	£.				
Alpington	520	1148	1034	1054	1794	1172	
Ashby	436	988	859	1064	897	1183	
Bedingham	1148	2067	1811	1868	1949	2078	
Broome	1421	2632	2040	2526	2110	2856	
Carleton St. Peter	765	1121	952	1000	864	1112	
Chedgrave	1395	2674	1876	2318	1904	2575	
Claxton	977	1124	987	1134	908	1369	
Ditchingham	2055	4334	3706	4586	2756	5213	
Hardley	1428	1819	1623	2132	1789	2370	
Hedenham	1564	2710	2183	2530	2364	2812	
Hillington	516	960	888	888	562	983	
Kirstead	1009	2023	1474	1548	1621	1719	
Langley	2668	3643	3245	3244	2999	3563	
Loddon	2988	5733	4981	5724	5852	6376	
Mundham	1527	2688	2308	2316		2574	
Sisland	459	914	632	726	2759	806	
Seething	1571	2979	2418	2620	3030	2912	
Thurton	748	1755	1241	1346	1143	1496	
Thwaite	667	1037	971	970	874	1030	
Topcroft	1864	2752	2514	3230	2329	3589	
Woodton	2112	3124	2887	3516	2797	3916	
	27838	48225	40630	46340	41301	51704	

MITFORD.

PARISH or PLACE.	Assessable Acres.	Gross Estimated Rental.		Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842
		£.	£.				
Cranworth	1107	1551	1310	1366	1458	1518	
Dereham East	4460	15790	12200	16658	9184	14551	
Garvestone	787	1967	1188	1658	973	1842	
Hardingham	2390	4788	3879	3910	3319	4304	
Hockering	1934	3050	2312	2792	2348	3102	
Letton	1263	1596	1356	1444	1410	1605	
Mattishall	2238	4891	4258	5396	2988	6026	
Mattishall Burgh	605	1349	964	1262	847	1403	
Reymerstone	1600	2527	2149	2394	2179	2659	
Shipdham	4514	8074	6665	7940	6638	8951	
Southbergh	1211	1704	1421	1758	1555	1954	
Thuxton	1085	1640	1404	1404	1120	1499	
Tuddenham East	2010	3925	2877	3248	2350	3609	
Tuddenham North	2208	3833	3533	3532	2957	3715	
Westfield	559	983	895	1008	577	1119	
Whinbergh	1229	1896	1756	1756	1784	1923	
Woodrising	1363	1905	1697	1696	1637	1825	
Yaxham	1570	3959	2449	3022	2676	3357	
	32133	65428	51813	62244	46000	64962	

SHROPHAM.

Attleborough	5247	10621	8846	9604	9577	11078
Besthorpe	2127	3789	3078	3374	3745	3750
Brettenham	1888	925	825	842	1104	935
Bridgham	2639	1930	1676	1790	1870	1890
Buckenham New	315	1447	1233	1262	1525	1533
Buckenham Old	4812	7220	6679	8106	9738	9006
Eccles	1630	1669	1421	1440	1516	1600
Ellingham Great	2580	3937	3592	4462	4402	4991
Hargham	1136	1035	872	904	1283	1005
Hockham	3196	3039	2703	2892	3115	3213
Illington	1100	663	597	664	558	738
Kilverstone	1869	886	803	802	1146	870
Larling	1506	1348	1219	1252	1815	1391
Rockland All Saints	916	1224	1166	864		1995
Rockland St. Andrew	669	784	761	1796	2284	755
Roudham	2025	906	816	760	863	960
Shropshire	2596	2580	2376	2786	4390	3095
Snetterton	1668	1739	1633	1876	2363	2098
Wilby	1382	1434	1290	1392	1861	1546
Writham East	2572	1378	1226	1234	3180	1871
Writham West	3121	1051	960	1124		1248
	44944	49605	43771	49256	56335	55168

SMITHDON.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Rateable Value.	Assessment in 1843.	Assessment under old Property Tax.	Under Income Tax of 1842.
Barwick	1270	1352	1217	1216		1135
Bircham Great	3542	2236	2153	2152	2216	2344
Bircham Newton	1124	949	854	854	901	920
Bircham Tofts	1301	573	506	798	941	887
Brancaster	2969	3657	3224	3314	2978	3789
Docking	5896	5482	5027	5764	6188	6636
Fring	1570	1430	1287	1598	1666	1775
Heacham	3514	5265	4759	4774	4971	5304
Holme next the Sea	1197	2100	1897	1896	1681	1836
Hunstanton with Barret Ring- stead	2005	2289	2057	2620	2637	2912
Ingoldisthorpe	1128	2086	1830	1830	1813	2023
Ringstead Great with Chosely	3280	3224	2929	3016	3939	3352
Sedgeford	4001	3919	3528	3528	3994	3864
Sherbourne	1221	974	879	878	999	884
Snettisham	4940	6972	6480	6790	6783	7545
Stanhoe	1413	2023	1763	2158	3651	2692
Thornham	1985	3172	2641	3236	3373	3595
Titchwell	1430	1711	1543	1606	1641	1785
	43786	49414	44574	48028	50272	52278

TAVERHAM.

Attlebridge	1206	1164	1001	1000	1046	1068
Beeston St. Andrew	609	1135	971	1018	803	1132
Catton	904	2406	2190	2380	2149	3311
Croftwick	636	939	845	944	763	1050
Drayton	1284	1451	1282	1524	976	1694
Feitorpe	2201	1550	1146	1308	1021	1453
Frettenham	1512	2404	1906	2086	1819	2318
Hainford	1755	2464	2371	2544	1470	2827
Helleston	1163	1224	1130	1302	1020	1458
Horsford	3770	3680	3385	3384	2250	3582
Horsham St. Faith's and New- ton St. Faith's	2306	4306	3669	4452	1640	5002
Horstead with Stanninghall	2586	2221	2115	3300	2214	3667
Rackheath	1980	2710	2546	2614	2387	2905
Salhouse	1456	2362	1771	2520	1366	2801
Spixworth	1209	2516	1476	1792	1388	1991
Sprowston	2569	4124	3070	4700	2349	5316
Taverham	2021	1993	1781	1780	1013	1942
Wroxham	1433	1752	1645	1936	1748	2255
	30600	40401	34300	41084	27422	45772

TUNSTEAD.

PARISH OR PLACE.	Assessable Acres.	Gross Estimated Rental.	Ratable Value.	Assessment in 1833.	Assessment under old Property Tax.	Under Income Tax of 1842.
Ashmanhaugh	644	972	867	1006	642	976
Bacton	1585	2696	2413	2680	1972	2537
Barton Turf	1509	2507	2221	2448	1593	2259
Beeston St. Lawrence	518	990	877	883	499	836
Bradfield	719	1170	1055	1054	842	940
Croftwright	688	1152	836	846	516	789
Dilham	1540	3075	2704	2866	1508	2712
Edingthorpe	700	1237	1107	1264	708	1182
Felmingham	1863	3435	3112	3112	2252	2755
Honing	1024	1540	1200	2206	1167	2112
Horning	2524	4061	3692	3790	1997	3803
Hoveton St. John	1766	1795	1486	1746	1391	1924
Hoveton St. Peter	851	1450	1162	1302	934	1277
Irstead	838	1006	870	1186	634	1202
Neatishead	1878	3402	3052	3052	1827	2612
Paston	1318	2485	2407	2524	1774	2424
Ridlington	597	1316	1187	1186	682	1046
Sco-Ruston	482	929	822	822	636	509
Sloley	637	1392	1156	1452	656	1370
Smallburgh	1171	2530	2236	2568	1155	2441
Swafield	817	1548	1341	1434	1165	1372
Tunstead	2261	4557	4144	4144	3071	3616
Walsham North	3808	11811	10671	10942	6253	11683
Westwick	834	1529	1378	1378	850	1403
Witton	1720	2464	2179	2526	1694	2415
Worstead	2404	4520	4071	4504	2860	4338
	34696	65599	58246	62870	39139	50595

WALSHAM.

PARISH OR PLACE.	Assessable Acres.				Assessment in 1843.	Assessment under old Property Tax	Under Income Tax of 1842.
		Gross Estimated Rental.	Rateable Value.	£.			
Acle	3165	8113	5611	5828	4073	6696	
Beighton	996	2326	2093	2568	1257	2854	
Halvergate	2636	5590	4977	5722	3505	6358	
Hemblington	663	1663	1372	1630	812	1811	
Moulton	1001	2100	1879	2068	1124	2298	
Ranworth with Panxworth	2444	4051	3181	3614	1946	4016	
Reedham	3271	6013	5034	5048	3065	5609	
Tunstall	1598	3010	2748	2748	1394	2731	
Upton with Fishley	2112	4147	3554	3936	2825	4493	
Walsham South St. Lawrence	1867	4108	3662	3562	3445	6294	
Walsham South St. Mary	1285	2718	2153	2152	1635	3008	
Wickhampton	1602	3268	2487	2708	1980	2858	
Woodbastwick	1418	2637	1954	2572	1240	2405	
	24058	49744	40605	44156	27061	49026	

WAYLAND.

Ashill	2970	4940	3854	4526	5366	5039
Breckles	1506	1207	1082	1124	1774	1249
Carbrooke	3026	4698	4023	4604	5230	5115
Caston	1509	2376	2102	2430	3131	2701
Ellingham Little	1516	2506	2275	2274	2405	2451
Griston	1355	2048	1830	1884	2421	2094
Merton	1343	1572	1075	1188	1143	1320
Ovington	1392	2082	1640	2342	2873	2603
Rockland St. Peter	999	1807	1390	1658	1147	1842
Saham Toney	3637	5574	4992	5590	7459	6212
Seoulton	2193	2771	2389	3746	3407	3052
Stow Bedon	1637	1650	1467	1634	1839	1815
Thompson	2218	2732	2192	2292	2787	2547
Threton	922	925	828	828	838	1110
Tottington	3090	1983	1610	1874	1667	2083
Watton	1763	4953	3923	5412	5132	6182
	31076	43424	36662	48406	48709	47406

TABLE, ACCORDING TO THE RETURNS UNDER THE PROPERTY TAX,
FOR 1810 AND 11, AND 1814 AND 15.

Acres	1,295,360
Estimated Rental for 1814 and 15	£921,581 0 0
Rent per Acre for 1810 and 11	0 14 24
Estimated Rental for 1814 and 15	1,102,352 0 0
Rent per Acre in 1814 and 15	0 17 04
Estimated Profits of Occupiers	698,882 0 0*

AMOUNT OF PROPERTY ASSESSED UNDER THE DIFFERENT SCHEDULES
OF THE PROPERTY TAX ACT FOR THE YEAR 1814—1815.

Property from Land	£1,102,352 0 0
Property from Houses	229,634 0 0
Amount of Tithes	164,466 0 0
Profits from Manors	9,991 0 0
Amount of Fines	4,835 0 0
Profits of Iron Works, &c.	78 0 0
General Profits chargeable under Schedule A.	528 0 0
 Total	 £1,511,884 0 0
 Schedule B. Assessed to the Occupier	 £1,087,481 0 0
Schedule D. Profits of Trade, &c.	522,967 0 0
Schedule E. Public Offices and Employments	16,351 0 0

* Under the Property Tax Act, the Profits or clear Taxable Incomes of the Occupiers of Land were estimated at three-fourths, and they were so Assessed.

In treating of CORN RENTS, a gentleman who has the management of large properties in this and other counties, on one of which, in Suffolk, it has been followed to the satisfaction of all parties, has favoured me with the following paper :—

In the greater than usual uncertainty from apprehended legislative measures, I cannot see how arrangements can be made for letting and hiring farms, except upon such a system as may in some measure meet the circumstances under which we may possibly be placed. This must be something of a corn rent—something that will reduce the rent, with the decrease of the occupier's ability to pay and increase it with his more ample means. There must be a give and take plan, otherwise agreements will never bind but one party, and the party not securely bound will be the more reckless in taking hold without any or with but little consideration or calculation as to rental value. The plan of a corn rent is not so simple as may be imagined, if it is to be such as will suit all circumstances. So much corn, such as a coomb of barley per acre, or three bushels of wheat per acre, appears a reasonable plan ; but it by no means settles the question on an equitable basis, because in the case of a coomb of barley per acre as the rent, in one year it might take one-sixth of my barley crop, and in another one-ninth ; or in one year I should pay 18s. with a short crop, and seed and horse corn higher for that reason ; and in another 14s. with the total produce sold, realizing more money, and the lowest rent to pay ; that is, taking the price to be ruled

by the general productiveness of the crops. Notwithstanding this, we must in a great measure found the system of shifting rents in the price of corn, as we know by experience that when corn has been low, there has been a great pressure for abatements, and that they have been conceded, and with high prices, from whatever cause, no reduction has been required, and certainly no advance given. If we could take all farm produce into account, and render for rent a certain portion of that produce (one-fourth or one fifth, or one-sixth, as the case might be), it might come near the required mark; but as this would make it necessary to keep and render an account of every thing in every year to allot the landlord's share, it will never be adopted, and can never be proposed.

" In considering the matter for the purpose of striking out some plan likely to be satisfactory to both parties interested, I have found it necessary to adopt the price of corn to govern my scale, and at the same time holding to a fixed rent, as far as there is a fair chance of standing by it. The plan which follows will more clearly explain my meaning. The rent to be governed by the price of a coomb of wheat and coomb of barley together, thus—one coomb of barley 15s. one coomb of wheat 27s.=42s. The two being 42s. the rental value of a farm is estimated at £500. It shall remain at that rent, except the average of the year ending 1st October shall be less than 39s. or more than 45s. for a coomb of each, as shewn in the scale below. The average for the year ending 1st October to govern the

rent due the 11th of the same month of October, and to be taken at the local market; here it would be at Lynn."

	When above 51s. <u>£650.</u>
When above 48s. and not above 51s. <u>£600.</u>	
When above 45s. and not above 48s. <u>£550.</u>	
When above 39s. and not above 45s. rent to remain as first fixed— say <u>£500.</u>	
When below 39s. and not less than 36s. <u>£450.</u>	
When less than 36s. and not less than 33s. <u>£400.</u>	
When less than 33s. <u>£350.</u>	

The duration as well as the restrictive clauses in leases have of late years undergone much discussion among the occupiers in general, and although opinions differ as to length of term, it is yet universally admitted that leases varying from twelve to twenty-one years, are the only means by which a tenant can secure a return for his outlay, while they are alike beneficial to the landlord in the improvement of his estate, to the tenant who makes an immediate investment by receiving an earlier return, and to the community at large by a consequent increased production. This is the general feeling among the tenantry of Norfolk.

"A large expenditure of money," says a tenant occupier and an estate agent, "is necessary to successful farming, and a tenant should always look for a guarantee in proportion to the outlay. An occupier who expects to hold his land but for a year, or to hold it only on such conditions as may terminate his tenure at the year's end, should expend so much only as he may hope to re-imburse himself by a year's crop; for all expended beyond that might be thrown away; but such an expenditure plainly could not permanently improve the soil, so of three years, seven years, or any other short term. The farmer, how rich soever he may be, will proportion his expenditure to his interest in the land; but let a tenant have a long and equitable lease, let him feel assured that he has a life interest in a farm, and he will cast his whole lot with it; then if he be rich and skilful, he will cultivate it to the highest point to which the constantly improving state of agricultural science can direct him. Such is the importance to the whole nation of the tenant's guarantee. It is more necessary than ever that the farmer who has capital should possess a long lease, because the increasing demand for farms creates a competition that but few landlords can withstand, and that many landlords must from necessity seek; when such is the case, the tenant of capital and skill is brought into a fearful contest with reckless speculation, which is frequently accompanied by moneyless antagonism, and the result is destructive to the real interests of the contracting parties, lessening the employment of the

labourer, and consequently checking cultivation and diminishing production, and increasing pauperism ; these are mischiefs which the want of a secure tenure will invariably engender. The farmer wants to grow the greatest quantity in the shortest time, without injuring the land ; this cannot be done without a great outlay, and which he would not incur without a lease ; with a lease he would go to work with confidence, certain that the money laid out in improved cultivation would in bad times enable him the better to contend against loss, and in good times to derive proportionably greater advantages of profit ; in fact, without a lease, he dares not pursue that course of cultivation to which he must look for remuneration. It therefore appears to me that farming with or without a lease, is in nine cases out of ten the difference between profit and loss." "With respect to long leases," says another correspondent, "there can be no better argument as to the general benefit and good to be derived from a long lease, than the fact, that in going through this county you may, with very few exceptions, select those farms which are held under lease, from the state of the cultivation, the creditable appearance of the fences, houses and premises, by the which, whilst the occupier is holding it to a profit and in comfort, the owner is considerably advantaged by the increased value of his estate, either to sell or to let, whenever a long lease expires."

There are some occupiers whose experience leads them to think that all long leases should be subject to a

renewal clause at the end of ten years if the lease be for fourteen years, and at the end of fourteen years if the lease be for twenty-one years; while others consider that where long leases are taken, they should be binding on both parties, without deduction of rent in any case, because it is very fairly argued that these deductions operate injuriously against the general body of the occupiers, inasmuch as the high rent at which the previous tenant took the farm, resting his hope in an annual reduction from his landlord should the times require it, gives a fictitious value to the occupation, and thus a succeeding tenant was perhaps induced to offer a higher rent than if he had considered the land according to its real value. There are only two modes by which a landlord can be disadvantaged by giving a long lease; the one is, that he may have selected a farmer who has neither skill nor capital, and who will neither use the one nor employ the other; the second is, that he surrenders the power to eject under any circumstances. That there may be a few such landlords is probable, because among the rich equally with the poor, there are "all sorts and conditions of men;" but that the number is very limited who would use such a power, common justice obliges us to believe. But independent of the opinions in favour of leases, however deserving attention as the results of the combined experience and observation of practical men, whose lives have extended into "the sear and yellow leaf," the results of all enquiries have proved that not only is more labour employed by tenants under a long lease, but that on such soils as the

lighter lands of Norfolk cultivation is higher, and the relative production greater. It is the universal conviction also that the tenant cannot injure the land in cropping or otherwise, without injuring himself. There is a growing feeling therefore against many of the compulsory clauses as to cropping, ploughing, &c. as injurious to a good farmer with sufficient capital, skill, and industry. Upon this point, the authority before quoted says:—" In regard to cropping covenants, there must always be some defined course laid down to guide and govern the occupier. Covenants, like the laws, are made for those who may be inclined and really will break them, and they must be made to suit all probable circumstances and contingencies. It is not always clear who may be the occupier at the termination of the lease, or even when it may be brought to a termination; therefore defining the course for the last four years will not exactly suit as a rule. Having these necessary guards, the less a good tenant and a good farmer is interfered with the better; as a person who is freely expending his capital in the improvement of his occupation, may well be trusted to vary his course of cropping without fear of injury to the land. There are cases, not a few, where restrictions as to cropping are a necessary protection to the tenants against themselves, as some are apt to hold the mistaken notion, that to have plenty of land in corn will put them all right; and thus they enter upon this course of cross-cropping and never get right again, impoverishing the land and themselves to the end of the chapter. These require protection, and

it is never quite certain that such as these may not fall into the occupation of any particular farm before the termination of a long lease. Did they happen to take the more correct view that ‘plenty of corn on the land’ should be the object, an additional quantity of land in crop would be of no importance, and might readily be conceded. There ought always to be protective covenants for the tenants for all permanent unexhausted improvements at the end of the lease or agreement; and indeed were this attended to in its full and equitable extent, leases would not be of so much importance; but still leases are the only safe and certain means of securing the application of capital to the land, and the benefits arising therefrom, in due proportions to the rightful owners.”

While this feeling exists regarding the bulk of compulsory clauses, there are other clauses which are admitted to be equally beneficial, and ought to be retained; for instance, those which prevent the breaking up of pastures, the restricting the last four or six years of cultivation. This is a mere act of justice both to the in-coming tenant and the landlord, for it might, and indeed has often happened, that the farm had been so cropped, or suffered to fall into decay, as to cause the in-comer to make a great outlay, for want of a good root crop. With these exceptions, the general opinion rests in favour of these clauses—

That cropping should be unrestricted, except that no two white crops should be taken in succession; that no pasture land should be broken up; that a portion of the

hay, straw, and green crops should be allowed to be sold, if replaced by an equal amount laid out in artificial manure, and that a certain quantity of ditching and draining should be done annually, a portion of the latter being paid by the landlord.



TITHES.

NONE of the burdens upon land have risen in a greater ratio than TITHE, and none have upheld that elevation more steadily, the deductions being partial, and only occurring at certain periods, and dependent upon the benevolence of the Tithe-owner. During the high prices the effect of Tithe was little felt, and if it were, the profits were so large the burden was not heeded; but when prices lowered, and the poor lands which had been brought into cultivation during prosperity began to require a large continued outlay to render them productive, the charge became onerous; for though it had risen in a relative degree with rent, it did not fluctuate proportionally. Tithes were in a few instances cast; in other farms improvement stopped, and one whole farm at Cressingham was kept in grass during the entire period of the landlord's life. The new act just passed has placed the rent charge upon the average as high as the Tithes were in the best of times. According to Mr. Kent's report in 1796, the average appears

to have been about 2s. 11½d. per acre; to Mr. Young's in 1804, the average of thirty-seven minutes he took was 4s. 9d. per acre. In the year 1843, the average of forty-two minutes from all districts of the county, makes the Tithe 6s. 8d. per acre.

The following is a list of forty Commutations agreed upon in the several parishes in different parts of the county, and taken indiscriminately:—

No.	ARABLE.		PASTURE.	
	s.	d.	s.	d.
1	1	6	2	6
2	1	9	1	9
3	4	0	2	6
4	8	0	2	6
5	2	0	1	0
6	4	0	2	0
7	5	6	2	6
8	5	6	2	6
9	7	4	2	0
10	8	0	2	6
11	6	0	2	0
12	4	0	2	0
13	3	3	2	0
14	7	6	2	6
15	3	3	2	0
16	8	0	3	0
17	8	0	3	0
18	8	0	2	6
19	4	2	2	0
20	4	9	2	0

AGRICULTURE

No.	ARABLE.		PASTURE.	
	s.	d.	s.	d.
21	9	0	3	0
22	7	0	3	0
23	5	0	2	0
24	7	6	2	6
25	7	6	3	6
26	9	6	3	0
27	5	6	2	0
28	5	9	2	0
29	6	3	2	0
30	8	6	3	0
31	5	9	2	2
32	4	0	2	0
33	8	3	2	6
34	6	0	2	0
35	3	6	2	0
36	4	0	2	6
37	5	8	2	6
38	6	11	2	6
39	10	6	3	0
40	8	6	3	0

Average—Arable 6s. 0½d.
 Pasture 2s. 4½d.

Since the adjudication of the Prize, I have been enabled to confirm the previous average by another List of Commutations, taken indiscriminately, for which also I am indebted to the politeness of the Bishop's Registrar.

No.	ARABLE.		PASTURE.	
	S.	D.	S.	D.
1	8	0	3	0
2	4	0	2	6
3	8	0	3	0
4	8	0	3	0
5	5	6	1	0
6	6	9	2	6
7	10	0	2	6
8	6	6	2	6
9	4	2	2	0
10	7	0	3	0
11	4	1	2	6
12	9	0	3	0
13	7	0	2	6
14	5	10	3	0
15	5	9	2	6
16	4	9	2	6
17	7	0	2	0
18	8	0	3	0
19	8	6	3	0
20	6	6	2	6
21	6	3	2	6
22	7	0	2	4
23	8	9	2	6

AGRICULTURE

No.	ARABLE.		PASTURE.	
	S.	D.	S.	D.
24	6	6	2	6
25	8	3	2	6
26	6	6	2	0
27	7	0	2	6
28	6	6	2	6
29	6	6	2	6
30	6	6	2	3
31	5	6	2	6
32	7	1	2	6
33	5	0	2	3
34	4	0	1	0
35	8	2	2	0
36	6	0	2	6
37	4	0	2	0
38	5	6	2	1
39	5	6	2	6
40	5	6	2	0
Average—Arable	6	6		
Pasture	2	5 $\frac{1}{4}$		

PROGRESSION OF AGRICULTURE
FROM 1805.

WITH the rapid rise in the prices of agricultural production came the desire for enlarged occupations, and in consequence of the necessity which existed to meet the exigencies of the period by increased production, a stimulus of the utmost importance to national progression and national resistance, was given to agriculture. The effect of this impulse was not only to elevate the character of the farmer and his employment, but to attract the attention of persons of intellect, education, and capital, who, encouraged by the energetic example and influence of MR. COKE, invested large sums in the pursuit. Cultivation exhibited all those marks of careful attention in manuring, cropping, and draining every inch of land capable of being appropriated for production, which prosperity in all cases creates. The vast tracts of uncultivated land in sheep walks, warrens, and commons, with which Norfolk then abounded, almost instantly become a scene of the busiest employment; and in the course of the succeeding years, between 1804 and 1821, one hundred and fifty-three inclosures took

place ; the land was cultivated at an enormous outlay it is true, but for this the prices of agricultural produce amply compensated. All these circumstances manifested the share which energetic and enterprizing intellects were taking in agriculture ; while the tenantry generally were made to feel and understand more fully their own independent position, and came gradually to partake in the elevation of character which was the distinction of the age. As farms became vacant, such was the anxiety to obtain them, that competition was kept alive, and the natural effect was that while the landlords largely increased their rentals, those bred to farming were greatly disadvantaged by the sudden influx of capitalists from other professions.

MR. COKE had set the example of improvement by bringing a large tract of land into high cultivation, which had hitherto grown neither Wheat, the staple commodity of life, nor that which ultimately became the basis of the Norfolk agricultural system—the Turnip. In proportion as this crop rose in importance, larger numbers both of beasts and sheep were maintained on every farm. The value of Sheep in bringing light land more rapidly into a good state of cultivation once ascertained, the dairies formerly kept in West Norfolk quickly yielded to the Leicesters, which supplanted the Old Norfolk, and were in their turn superseded in a great degree by the Southdown Sheep, which still retains its pre-eminence in the county. At that time Sheep were largely imported into Norfolk, not only for flocks but for slaughter ; and some estimate may be formed of the progress agricul-

ture was then making by the number of SHEEP and PIGS brought upon the Norwich Cattle Market, between the years 1809 and 1815. There were—

DECEMBER.	SHEEP.	PIGS.
		No. Acct.
1810	141,806	
1811	138,690	,
1812	123,663	,
1813	92,201	11,658
1814	91,824	16,726
1815	89,076	16,910
 Total	 677,260	 45,294

The subsequent tables are given to exhibit the amount of the regular supply. For the years 1810, 1811, and 1812, I have been unable to obtain more minute data.

SHEEP AND PIGS AT EIGHT-PENCE PER SCORE.

1810.—January to March 25	42 11 6½	
March to June 16	72 13 3½	
September	73 14 8	
	47 7 8½	
	 £236 7 2½	=141,806

1811.—January		Sheep.
February		7,725
March		8,304
April		18,324
May		11,861
June		10,243
July		14,942
August		11,662
September		12,564
October		14,320
November		12,981
December		11,760
		4,008
	 138,690	
1812		 123,663

1813.		1814.		1815.	
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.
		643	356	448	291
		263	162	422	295
		376	327	226	148
		160	182	211	167
2560	144	178	152	244	202
1240	246	247	229	369	200
2025	280	124	287	486	142
2624	243	873	392	723	347
3602	10	508	354	647	389
1463	206	844	223	1604	366
3643	340	905	306	1328	422
3825	206	1804	480	2523	240
4142	243	2407	411	487	371
2883	200	1843	308	2407	325
3560	263	2416	11	3122	488
2442	181	762	286	2646	434
2225	207	3025	368	3280	491
2442	245	3006	347	3611	343
2680	247	3015	289	3624	381
2821	201	3041	238	3053	447
2301	147	1968	389	3643	366
2280	181	2716	354	3163	428
2287	186	2284	318	2027	349
3260	146	1743	345	1785	342
2641	183	2867	229	1850	296
3960	222	1706	229	1534	248
2481	147	1529	225	1704	290
765	164	1749	306	1465	362
1142	183	1322	386	885	265
805	205	864	268	1265	250
2102	287	1518	225	2188	306
2682	31	2404	406	2896	329
2727	421	3535	363	2171	348
2366	386	2785	322	948	242
1821	423	3268	344	466	248
1563	484	2832	423	2085	351
2606	422	1807	284	2441	327
2004	346	1709	289	2467	285
1832	502	2422	240	1431	204
1506	531	3727	302	1696	244
1018	436	3220	229	3047	250
1307	521	3783	367	2624	407
872	356	2456	425	3007	334
321	463	2983	402	2433	325
504	319	1804	330	1436	338
471	304	1662	409	1244	344
		402	428	576	344
		1087	305	1247	251
		1023	334	1183	451
		1067	444	718	251
		654	365	858	416
		656	688	687	337
		722	385	437	293
92,201	11,658	91,824	16,726	89,067	16,910

Of CATTLE, an opinion can alone be obtained from farmers and dealers of long experience, as no record was kept, no toll being demanded as in the case of sheep and pigs. These estimate the number, between 1805 and 1815, to have varied between four and six hundred a week. Assuming also, in the absence of all documentary evidence, that West Norfolk demanded a third larger supply of sheep and an equal number of cattle (more beasts being grazed, in comparison with the extent of land, in the East than in the West), it will shew an annual demand of 250,000 sheep, and of beasts, from 10,000 to 15,000 between 1810 and 1815.*

In the meanwhile the progress of production can be very fairly indicated by a reference to the comparative quantities of wheat sold in Norwich Corn Market:—

WHEAT.	NO. OF COOMBS SOLD.
1805	50,844
10	55,521
11	61,112
12	54,560
39	174,176
40	207,274
41	201,750
42	239,620
43	241,644

* The prices of fat beasts varied between 8s. 6d. and 11s. a stone; lean from 5s. 6d. to 7s.; pork from 7s. to 10s. a stone; lambs rose as high as £36 a score; half-bred hoggets £42 to £45 a score; cart horses as high as 60 guineas each.

The more universal adoption of DRILL HUSBANDRY made another great alteration, and as demand increased and prices rose, a co-equal impulse was kept alive. Improvement was further encouraged by the HOLKHAM SHEEP-SHEARING, and by the NORFOLK AGRICULTURAL SOCIETY, while the THETFORD WOOL FAIR, established by MR. COKE and MR. COLQUHOUN, of Wretham, with a view to destroy a monopoly then existing among the Wool-buyers, gave an encouragement to the growers, aided in raising materially the price of that article, and at the same time stimulated them to obtain a purer quality, with a greater weight of fleece. While the production of meat and corn increased with the cultivation of the root crop, the utmost encouragement was given to the application of improved machinery for agricultural purposes; drills, threshing machines, horse hoes and ploughs, though some of them fell far short of the excellence now attained, were year by year invented. What less than an enormous augmentation in all the powers of production could be expected, therefore, from a system in which "Live and let live" was alike the precept and the practice of one whose desire "it was to introduce a better breed of animals and greater improvements—improvements which in making the county a garden, would enable the tenantry to pay their rents?"*

Thus passed these prosperous times, during which more had been effected towards ascertaining the most approved systems of husbandry, diffusing the knowledge

* See Mr. Coke's Speech at Holkham, 1812.

thus acquired, and in originating and determining by practical experience the utility of those improvements by which the agriculture of Norfolk has been distinguished for so long a period. The principal of these were—

The adoption of the **FOUR-COURSE** system on light soils, always avoiding the succession of two white crops.

A **STALE FURROW** as a seed bed for wheat or oats, especially on light lands, where it obtains a solidity not acquired by a fresh furrow, the plant being less liable to be injured by frost, as well as the grub, wire worm, and poppy.

The **Row-CULTURE** for corn crops, whether by the drill or dibble, as well as for roots, was firmly established.

DRILLING on the flat was thought to succeed best on light lands, and that 27 inches were preferable to 18; and the ridge or Northumberland being more suited to the heavy and wet soils—an opinion however which future experience has not altogether borne out. The ravages of the turnip fly were greatly avoided by obtaining a fine tilth, an early and repeated use of the inverted horse hoe, invented by Mr. **BLAIKIE**, a frequent stirring of the soil assisting the growth of the plant, and thus placing it beyond this enemy.

The conversion of arable land into pasture by **INOCULATION**, recommended by **MR. BLOMFIELD**, of Warham, was an important improvement, particularly on light lands, as a pasture was obtained in a much shorter period. **MANGEL WURZEL** was successfully introduced, and considered a valuable addition to the root crop, its

culture being on the ridge. **TALAVERA WHEAT**, as a Spring crop, had been also grown with success.

In the application of the **MANURES**, the uses as well as the abuses of the calcareous soils had been discovered, and the proper proportions ascertained, and it was recommended that the quantity should never exceed that of farm-yard manure. Bone dust and rape cake began to be more generally applied about 1820; the first upon light soils on account of its lasting qualities, the second for its forcing power for turnips. Gypsum had been efficacious on Saintfoin upon light sandy soils; while the treatment recommended by MR. BLAIKIE, of mixing all varieties as much as possible, taking care to have a good bottom of marl or mould, and the top likewise covered to prevent the escape of the gasses, had been found to increase the fertilizing qualities of farm-yard manure.

In **SHEEP**, the **SOUTHDOWN** breed has been proved best suited to the light lands of Norfolk; great care and attention had been paid to the selection, both of the tup and the ewe, not only by the owner of Holkham, but by a large number of agriculturists who had brought the breed to a perfection, which, speaking generally, it has not of late years maintained. For **GRAZING**, the first cross of the Leicester was adopted, and found to produce a better fleece, and a larger and better carcass. A further cross was deprecated as injurious, such animals having always degenerated in every requisite for the production of a "fine fleece and a fat carcass." These opinions were sound and just; had they been

steadily followed, Norfolk would not now have possessed so large a number of mongrel-bred animals.

The CATTLE had been improved by the introduction of stocks from eminent breeders; these on some farms had been crossed with the Norfolk cattle, but the difficulty of keeping up their purity was so great that the system had not materially extended. MR. COKE had long introduced and supported the DEVON breed for their hardness of constitution and general superiority for milking, for draught, or for grazing; and as preferable on poor lands either to the SHORTHORNS or HEREFORDS. But SCOTS or SHORTHORNS were then most generally grazed.

IRRIGATION had been very partially introduced, with complete success as to its effects, but at so great an expense as to prevent its being carried out to any considerable extent. The most noted were the meadows of MR. BECK, of West Lexham, made under the direction of MR. SMITH, the celebrated geologist; those of the late MR. REEVE, of Wighton; MR. PURDY, of Castleacre (now in Mr. Hudson's occupation); MR. W. BECK, of Mileham; the late MR. FOSTER, of Easton; and of the late GENERAL FITZROY, of Kempstone.

UNDER-DRAINING had been performed to a considerable extent, though by no means in proportion to the progression of other improvements, the mode being by stones, brush-wood, whins and straw, and sods: Tile-draining not then having come into practice.

The treatment of HEDGE-ROW TIMBER, the rearing and guarding young fences, and cutting hedges, had

been much improved by the suggestions of MR. BLAIKIE.

While the example of intelligent and energetic agriculturists, with their just success, had given this stimulus and created these improvements in the WESTERN part of the county, the EASTERN portion still continued very nearly under an unchanged mode of tillage. These fertile soils required but little of the artificial aid necessary to produce the root crops in the West. But the cultivation was improved in a relative degree by the adoption of the drill and horse-hoe husbandry, and of late years by the Northumberland system; and these fertile and friable soils enabled them to produce the most prolific crops at far less cost. Grazing increased as the turnip crop extended. The soil wanting but little manure beyond what their yards supplied, farming was most profitable. The five and six-course system was followed on good soils in Tunstead and Happing hundreds; the four and five-course on those of Blofield, Walsham, and East and West Flegg—the four in the latter districts being most common. The six-course shift was—wheat, part again wheat and part barley, turnips, barley, grass olland, and then wheat again—a system totally adverse to that on light soils, but only affording another proof that the adage “shew me the land, and I will tell you the course of cropping” is sound doctrine, for in no part of Norfolk can there perhaps be found so wealthy a body of occupiers as in Tunstead and Happing.

It is impossible to visit the FEN districts of Norfolk without being struck with the important change that has taken place in the last forty years; a change effected not by draining and claying alone, but by so conducting the drainage that the quantity of water can be regulated and directed to any part of the level. "In 1807," states a friend, "I paid my first visit to the fens around Downham and Southery, and par consequence, my first exploits with a jumping pole. I reckoned this the best part of farming. It was capital fun, for the drains were wide and full enough to afford plenty of sport in clearing them. Up to that time but little had been done towards drainage, except when it might please heaven to send wind to propel the mills; a lay of wind was sure to keep all the district under water, or at any rate to keep it sufficiently wet to put a stop to all cultivation; and clay was as much out of mind as at that time it was out of sight." The great works which were subsequently begun and brought to a successful termination after many years of labour and at an enormous expense, now known by the name of the EAU BRINK CUT, which commences at Denver and empties its waters into Lynn harbour, soon convinced all concerned, what important advantages might be obtained by a good system of natural drainage; and this conviction speedily led to the employment of mechanical aid. Windmills for drainage were built, but these in their turn gave way before all-powerful steam. Engines were erected, and that which was but a few years ago almost a floating peat bog, is now a solid and highly

prolific soil. The discovery of clay, and of the best kind, gave a new impetus to further improvement and cultivation.

The most general system of claying now adopted is, first to set out the land in ridges from fifteen to eighteen yards apart; the men then dig the holes in a straight line along the ridges; they get from eight to nine in a chain of twenty-four yards, the depth of the clay from the surface varies from five to nine feet; when it lies nearest the surface, about one and a quarter loads of solid clay are raised from each of these holes, which costs about $6\frac{1}{2}$ d., including the spreading upon the land; but where it lies nine feet, as it frequently does in some parts of the fen, the ridges are made much nearer, for at that depth so much clay cannot be obtained as when it lies fleeter, and the cost is from $10\frac{1}{2}$ d. to a ls. per hole. Clay is not universally found, sometimes sand and gravel are found in its place, occasionally mixed with strong blue gault, which is not so good as the soft clay. The rotation of crops varies very much where the land has not been clayed; the custom is to plough and burn, and sow coleseed, which is fed off by sheep.. In the spring it is sown with oats; when this crop is cleared off the land is manured and sown with wheat. It is then laid down with grass seed for two years. The third summer it is again ploughed and burned as before. After claying the plan is to fallow and manure; bone dust or yard manure for coleseed, which is fed off and wheat sown; the next year clover again succeeded by wheat; then fallow

or lay down to grass for two or three years. Another plan is, after coleseed to sow oats, wheat, beans, and wheat successively, but this applies only to the best lands.

The Pastures are of course improved in an equal ratio by the drainage and feeding, and will carry at the rate of one beast or eight sheep per acre.

Such, in brief, were the improvements effected in Norfolk at the period when those disastrous fluctuations commenced, which terminated in the general distress of the Agricultural Classes.

So great had been the excitement caused by the brilliant prosperity of past years, that when war ceased, and prices began to fall, neither owners nor occupiers could be induced to believe the change was other than temporary, and this belief was strengthened first by the New Corn Law, which fixed the importation price at 80s. a quarter; and next by the high prices of 1816 and 1817, consequent on the wet harvest of the former year. New contracts were entered into for occupations on the faith of the high protecting duties, at the former, and in some cases increased rents.

But, notwithstanding the prodigious growth of corn, production had not kept pace with consumption, and the high prices of 1817 brought an enormous influx of foreign grain during the next three years, and a further fall was the consequence. The interval to 1834 included a series of adverse years, increasing in pressure. Applications for reductions of rent and tithes were among the earliest symptoms of the times; to these succeeded failures to a fearful extent, and changes of occupancy

without number. Nothing can demonstrate the general state of agriculture more than the number of auctions which appeared in the provincial papers in these years.

Upon the causes which may have produced this distress, it is not for this report further to touch ; it is sufficient to point out that its effects were most disastrous upon a large number of the then occupiers, and that they have never been completely overcome. It will not, however, be inapplicable to the subject to insert the following authentic data, supplied from the accounts of farmers of experience and credibility, which demonstrate the effect of a high rate of local taxation, and other out-goings, upon short crops and reduced prices, upon soils where high cultivation is absolutely necessary to production.

Outgoings of a Light-land Farm in Norfolk ;
1790 as compared with 1820.

	1790.	1820.	Increase.
	£. s. d.	£. s. d.	
Rent per acre .	0 8 3	0 16 0	nearly 100 per ct.
Tithe . . .	0 1 6	0 4 0	above 250 per ct.
Labour . . .	0 14 0	1 6 6	nearly 100 per ct.
Rates . . .	0 1 0	0 4 9	nearly 475 per ct.
Direct taxes .	0 0 3	0 1 1½	450 per ct.
Farming bills .	0 6 7	0 11 6	80 per ct.
Int. on capital .	0 4 4½	0 7 6	80 per ct.
		3 11 4½	
		1 15 11½	
	1 15 11½	Difference .	1 15 5

Average statement of the Expense and Produce of an
 Acre of Arable Land on a Farm of 800 Acres.—
 Average of 1790, 1791, 1792.

Dr.	£.	s.	d.	Cr.	£.	s.	d.
Rent	0	8	0	Corn	1	2	5
Tithe	0	1	6	Sheep	0	5	6
Labour	0	14	4	Bullocks	0	2	1½
Rates	0	0	9	Pigs	0	1	3½
Bills	0	0	3				
Taxes	0	0	1½	Expenses	1	11	4
Interest on capital	0	2	10½		1	7	6
	1	7	6	Profit	0	3	10

Average price of Wheat 45s. Od. per qr.

„ Barley 26s. 4d. „

Average Expense and Produce of a Farm of 800
 Acres for two years, from Michaelmas 1818, to
 Michaelmas 1820.

Per acre.	Dr.	£.	s.	d.	Cr.	£.	s.	d.
£0 16 0	Rent	640	0	0	Corn sold	1325	9	2
0 4 0	Tithe	160	0	0	Balance received for bullocks	230	3	9
1 1 6	Labour	860	0	0	Ditto sheep and wool	360	0	0
0 3 0	Rates	123	0	0	Pigs and fowls	90	0	0
0 1 1½	Taxes	45	0	0	Loss.	546	14	4
0 3 0	Grass seeds	120	0	0				
0 3 10	Farming bills	153	18	7				
0 3 9	Extra manure	150	0	0				
0 7 0	Int. on £6000	300	0	0				
		2551	18	7		2552	7	3
£3 6 2½								

Another account of a Farm of 92 Acres of good Wheat Land, five of which are Meadow; the rest under Four-course Shift.—1820.

Per acre.	£.	s.	d.		£.	s.	d.	
£3 9 6	Rent and taxes .	320	1	3	Corn .	375	3	9
2 6 7	Labour .	214	9	2	Stock & poultry .	146	1	11
0 12 6	Tradesmen's bills	57	14	3	Loss .	150	5	11
0 11 2	Rates .	51	16	0				
0 1 11	County ditto .	5	6	11				
0 6 6	Tithes .	30	0	0				
£7 17 7		679	7	7		671	11	7

Statement of the Actual Expenditure and Receipts of a Farm of Good Land, 300 Acres, in East Norfolk, on the Six Course System, from Michaelmas, 1835, to Michaelmas, 1843, not requiring great outlay for artificial manure. The Rent charged at 35s. per acre; the Tithes at 10s. per acre, actual amount; and the attention of the Farmer at £100 per annum.

Expenditure.	£.	s.	d.	Average Price of Wheat.	Receipts.
From Mich. 1835 to 1836	1369	6	14	1 4 2	1679 11 84
" 1837	1419	11	84	1 8 6	2038 0 7
" 1838	1434	6	94	1 10 0	1881 12 9
" 1839	1461	3	04	1 17 8	2189 8 6
" 1840	1410	9	6	1 14 11	2146 16 0
" 1841	1435	14	34	1 12 9	2114 11 0
" 1842	1391	17	94	1 9 10	1707 4 74
" 1843	1395	18	14	1 8 0	1696 3 5
8) 11,318 2 54	12	5	10	8) 15,453 8 7	
Average per Ann.	1414	15	34	1 10 84	1931 13 64
Deduct Expenditure					1414 15 34
Total Profit . . .					£516 18 34

The Receipts and Expenditure of a Farm in West
Norfolk for 1824. Good Year.

DR.	£.	s.	d.	CR.	£.	s.	d.
Rent	480	0	0	Wheat	663	9	0
Tithe	120	0	0	Barley	768	1	9
Parish expenses	41	18	0	Peas	372	15	3
Labour	683	17	6	Oats	249	11	6
Seed corn	198	8	0	Sheep	541	19	0
Corn for horses	119	0	6	Grazing stock	183	9	0
Corn and cake for grazing cattle	58	0	0	Dairy and young stock	93	11	6
Hire of marsh for ditto	42	0	0	Pigs	98	17	9
Grass seeds	30	0	0				
Rape cake and other manure	137	14	6				
Carpenter, smith, and all trades	87	19	11				
Hurdles and other sundries*	64	4	1				
Interest at 4 per cent.	134	0	0				
Balance	784	12	5				
	2981	14	9		2981	14	9

Average of Crops per Acre.

	obs.	bush.		a.	d.	£.	a.	d.	
Wheat ...	7	1	at	32	0	...	11	12	0
Barley ...	10	0	at	21	4	...	10	13	4
Peas	9	2	at	24	10	...	12	0	0
Oats	10	0	at	11	8	...	5	16	8

Wool 40s. Od. per tod.

Lambs 23s. Od. each.

Shearlings 31s. 6d. each.

Gross Produce equal to 6·2 Rents.

* The purchase of, or casualties in Horse Stock included in this item.

The same Farm in 1826. Bad Year.

Dr.	£.	s.	d.	Cr.	£.	s.	d.
Rent	480	0	0	Wheat	592	7	3
Tithe	120	0	0	Barley	433	13	9
Parish expenses	60	16	1	Peas	221	12	6
Labour	632	18	1	Oats	107	3	0
Seed corn	134	12	0	Sheep	248	8	0
Horses' corn	177	8	3	Grazing	152	8	6
Corn and cake for grazing cattle	67	10	0	Dairy and young stock	81	17	8
Hire of marsh for ditto	60	0	0	Pigs	37	6	0
Grass seeds	41	13	1	Sundries (Horse)	16	5	10
Rape cake and other manure	97	1	6	Total produce	1891	2	6
Carpenter, smith, and all trades	86	19	10	Balance	279	12	1
Hurdles and other sundries	77	15	9				
Interest at 4 per cent.	134	0	0				
	2170	14	7		2170	14	7

Average of Crops per Acre.

	cbs.	bns.		s.	d.	£.	s.	d.
Wheat	6	0	at	28	0	...	8	8
Barley	7	2	at	18	8	...	7	0
Peas	3	3½	at	25	0	...	4	17
Oats	7	2	at	15	3	...	5	14

Wool 22s. 0d. per tod.

Lambs 14s. 0d. each.

Shearlings 25s. 0d. each.

Gross Produce equal to 3·9 Rents.

Very short Crop of Hay and Straw.

Average price of Crops on the Farm from which the foregoing accounts are taken, and amount of gross produce in Rents.

From 1819 to 1833, during 14 years.

	Price per coomb.			Quantity per acre.			
	£.	s.	d.	cbs.	bus.	ps.	
Wheat	1	9	10	.....	6	1	3
Barley	0	16	4	.....	9	2	2
Peas	1	0	10	.....	7	1	2
Oats	0	12	0	.....	12	2	0

In 1820 Gross produce equal to 4·3 Rents.

21	.....	4·1	,
22	.....	3·75	,
23	.....	5·0	,
24	.....	6·2	,
25	.....	5·73	,
26	.....	3·9	,
27	.....	5·1	,
28	.....	4·63	,
29	.....	4·37	,
30	.....	5·0	,
31	.....	4·1	,
32	.....	5·3	,
33	.....	3·73	,

Average of 14 years 4·659

Average Expenditure and Produce per Acre, on the same Farm in 1834.

DR.	£.	s.	d.	CR.	£.	s.	d.
Rent	0	18	0	Corn on the corn land	5	10	0
Tithe	0	5	0	On the whole farm	2	6	1
Rates	0	2	0	Sheep, pigs, and neat stock on feeding land	2	7	0
Labour	1	2	6	On the whole farm	1	7	1
Seed corn	0	5	2	Balance loss equal to 94 per cent. on the rental	0	17	0
Grass seeds, marsh hire, hay and turnips bought	0	6	0				
Horse corn and cake for grazing	0	9	6				
Manure	0	10	6				
Trademen's bills	0	3	0				
Sundries	0	2	6				
Interest on capital	0	6	0				
	4	10	2		4	10	2

Produce equal to 4 Rents

During 1834.

	Price per coomb.			Quantity per acre.			
	£.	s.	d.	£.	s.	d.	
Wheat	1	0	3	.....	6	1	2
Barley	0	16	6	.....	5	0	0
Peas	0	19	0	.....	2	3	0
Oats	0	12	0	.....	9	3	1

The above is the average on the whole Farm, Arable and Pasture. Proportion— $\frac{1}{2}$ Arable; $\frac{1}{2}$ Pasture. The prices are those made on the Farm, not the Market price.

Average Expenditure and Produce per Acre on the
same Farm in 1835.

Dr.	£. s. d.	Cr.	£. s. d.
Rent	0 17 0	Corn on the corn land	5 5 4
Tithe	0 4 6	On the whole farm	2 3 1
Rates	0 3 0	Live stock on feeding land	1 15 8
Labour	1 0 6	On the whole farm	1 1 1
Seed corn	0 5 0	Balance loss equal to 109 per cent. on the rental	0 18 8
Grass seeds, hay, manah hire and turnips bought	0 5 8		
Cake and corn	0 8 1		
Cake and manure	0 8 2		
Tradeamen's bills	0 2 10		
Sundries	0 2 6		
Interest of capital	0 6 0		
	4 2 10		4 2 10

Produce equal to 3·77 Rents.

In comparing the Gross Produce with the Rent, it must be borne in mind that the Expenditure for Manure is 10s. per Acre, and the Consumption of Artificial Food (Oil Cake, &c.), about 8s.; if these last, therefore, could be considered as a fixed sum, it would about double the Rent, and the Gross Produce would hardly exceed 2·55 of the Rent.

Gross Produce of the Farm per Acre.

		£.	s.	d.			
In 1834	3	13	2	equal to	4·06	Rents	
35	3	4	3	.....	3·80	„	
36	4	10	4	.....	5·30	„	
37	4	15	0	.....	5·07	„	
38	4	14	6	.....	5·04	„	
39	5	10	11	.....	5·93	„	
40	6	0	9	.....	6·44	„	
41	5	15	5	.....	6·15	„	
42	5	9	0	.....	4·91	„	
43	4	9	2	.....	4·40	„	
<hr/>							
10 years' Aver.	4	16	3	.....	5·11	Rents.	
<hr/>							

Averages of Corn per Acre, from 1834 to 1842, for
Wheat; 1834—1843, Barley, Peas, Oats.

	cbs.	bns.	pks.		s.	d.		£.	s.	d.
Wheat	6	2	3	...	28	9	...	9	12	2
Barley	8	1	0	...	16	5	...	6	17	1
Peas	7	3	0	...	18	4	...	7	0	3
Oats	13	3	0	...	11	3	...	7	16	11

The Crop of Wheat, 1843, is not all sold, therefore
that return is only nine years.

Average of Labour, in periods of five years.

Five years ending	Price per day.	Cost per annum.			
		s.	d.	£.	s.
1805	1 9	0	15	6	
10	1 11	0	19	6	
15	2 2½	1	2	4	
20	1 11	1	3	9	
25	1 8	1	1	0	
30	1 9	1	4	0	
35	1 8	1	3	2	
40	1 9½	1	3	7	

Expense per Acre of the same Farm in 1843.

	£.	s.	d.
Rent	0	19	0
Rent-charge	0	4	8
Rates	0	1	10
Labour	1	6	0
Seeds (grass, corn)	0	8	2
Artificial food	0	11	3
Horse corn	0	6	2
Manure bought	0	10	9
Tradesmen's bills	0	1	10
Sundries	0	2	0
Interest at 4 per cent.	0	6	5
	4	18	1
Deduct artificial food £0 11 3			
Ditto manure	0	10	9
	1	2	0
	£3	16	10

From 1821 to 1824 no inclosures were attempted, one proof of the effect of the distress. From 1825 to 1829 ten took place; from that period to 1835 the number was stationary.

The losses, although they did not alter the system, yet most materially affected the production of the county, taking a comparative average of years. The following tables of exports will show a material defalcation:—

**Return of Corn exported from Yarmouth in
1813, 1814, 1815, and 1816.**

Years.	Quarters.
1813	342,770
1814	371,267
1815	371,239
1816	284,643

**An Account of the total number of Quarters of British
Corn, exported coastwise, or to Scotland, or Ireland,
from Yarmouth, during the four years ending 5th
January, 1821.**

1817.	England and Wales.	Scotland.	Ireland.	Total.
Barley	154,001	48,049	10,270	212,920
Malt	52,158	241	482	52,881
Oats	17,148	2,923	110	20,181
Beans	4,540	1,499	86	6,125
Peas	1,864	1,503		3,367
Rye	433			433
Wheat	22,374	770		23,144
Flour	67,671	123		67,794
	320,189	55,708	10,948	386,845

1818.	England and Wales.	Scotland.	Ireland.	Total.
Barley	116,434	10,742	6,761	133,937
Malt	78,636	314	2,227	81,177
Oats	3,436	2,374		5,810
Beans	8,288	1,321		9,604
Peas	1,479	995		2,474
Rye	396			396
Wheat	17,106	50		17,156
Flour	71,671	238		71,909
	297,441	16,084	8,988	322,463

1819.	England and Wales.	Scotland.	Ireland.	Total.
Barley	57,102	1,714	538	59,354
Malt	71,883			71,883
Oats	555			555
Beans	1,272			1,272
Peas	480			480
Rye	137			137
Wheat	24,014			24,014
Flour	67,137			67,137
	222,530	1,714	538	224,782

1820.	England and Wales.	Scotland.	Ireland.	Total,
Barley	94,740	10,506	2,616	107,862
Malt	61,506	1,020	97	62,623
Oats	1,322			1,322
Beans	2,274			2,274
Peas	619			619
Rye	496			496
Wheat	11,479			11,479
Flour	63,772			63,772
	236,208	11,526	2,713	250,447

Total number of Quarters in the four years.

Years.	England and Wales.	Scotland.	Ireland.	Total.
1817	320,189	55,708	10,948	386,845
1818	297,441	16,034	8,988	322,463
1819	222,530	1,714	538	224,782
1820	236,208	11,526	2,713	250,447
	1,076,368	84,962	23,187	1,184,537

Average prices of Wheat, Barley, and Oats.

Years.	Wheat.	Barley.	Oats.		
				s.	d.
1817	95 1	48 2	31 3		
1818	84 9	51 6	31 4		
1819	73 0	45 5	27 8		
1820	65 10	33 1	23 8		

An Account of the total number of Quarters of Corn,
 Grain, and Flour, sent to London from Yarmouth
 in the years 1822, 1823, and 1824.

	1822.	1823.	1824.	Total.
Barley . . .	55,843	22,339	54,023	132,205
Malt . . .	62,402	52,429	69,738	184,669
Oats . . .	20,762	1,482	1,192	23,436
Beans . . .	460	473	1,171	2,104
Peas . . .	933	160	568	1,661
Rye . . .	74	79	50	203
Wheat . . .	20,015	9,558	12,847	42,420
Flour . . .	58,494	70,750	84,889	214,133

Exports from Lynn.

	Quarters.
The Average Export in three years, ending in 1795, was	180,158
In the year 1801 . . .	195,600
In the year 1811 . . .	212,500
In the year 1817 . . .	273,830
Average of three years preceding 1821 . . .	160,008

From Wells.

	Quarters.
Average of three years in 1795 . . .	78,207
In the year 1817 . . .	83,344
Average of three years preceding 1821 . . .	60,460

	Average of 3 years ending in 1795.	Average of 3 years ending in 1820.
	Quarters.	Quarters.
Yarmouth	267,378	265,897
Lynn	180,158	160,006
Wells	78,207	60,460
	525,743	486,363
Deficiency	39,380	Quarters.

Average of three years, ending 1795, 1816, and 1820.

	Average of three years ending in 1795.	Average of three years ending in 1816.	Average of three years ending in 1820.
	Quarters.	Quarters.	Quarters.
Wheat and Flour	53,044	102,341	85,158
Barley and Malt	196,463	230,350	173,262
Other Corn . . .	17,871	9,692	8,477
Total . . .	267,378	342,383	265,897

The effect of the New Poor Law in the reduction of an expenditure which had hitherto brought no adequate return—the emigration of a number of labourers—the benefits derived from improved management, combined with a certain amount of reduced taxation, and an increased price of corn, in consequence of manufacturing and commercial activity, were the prominent causes which led to a second period of comparative agricultural prosperity. No sooner was the farmer convinced of larger returns and increased profits, than his attention was immediately turned to the improvement of culture and stock. The results of better times were now again seen, more particularly in those districts where agricultural knowledge had not previously advanced in proportion to other parts of the county. In West Norfolk, where the advance had been so great in the early part of the present century, speaking generally, a much better tillage could not be expected; and here it will not be out of place to

remark, that of late years it has been much the fashion to represent Norfolk husbandry as having retrograded in comparison with other counties, this fact being forgotten—that while other parts of England were commencing the improvements of which they now justly boast, the farmers of West Norfolk had perfected what other counties had only begun. In making this assertion, no unfounded statement is hazarded of its justice; they alone who have passed a portion of the last thirty and forty years on the spot can form a competent judgment. It is not a mere passage through a district, nor a visit to one part, which will enable any individual, however gifted, to form a sound opinion of the relative progress of a people in any art. Those who are generally acquainted with what may justly be entitled to the denomination of West Norfolk Husbandry, in the real sense of the term, will agree in opinion—that for agricultural skill, practical knowledge, and intellectual energy, Norfolk can produce examples, not to be surpassed either in number or weight in any age, or by any similar district. It is true that the great spirit which led the van of improvement has departed, but time had been allowed for the seed he sowed to ripen and again produce, and while the original stock is still to be found in the persons of such agriculturists as MR. BLOMFIELD, of Warham; MR. GEORGE EVERITT, of Caistor; MR. KENDLE, of Weasenham; MR. WRIGHTUP, of Ashill; MR. TUTTELL MOORE, of Warham, *et hoc genus omne*, the scions will be acknowledged to be represented in those of MR. J. R. OVERMAN and MR. HENRY BLYTH,

of Burnham; MR. HUDSON, of Castleacre; MR. HENRY OVERMAN, of Weasenham; MR. HILL, of Waterden; MR. BECK, of Mileham; and MR. I. EVERITT, of Creake. To the improvements which have arisen from such energy and skill, LORD SPENCER has at length done full justice, and into no abler or more honorable hands could their merits have been consigned.

Since the return of comparative prosperity the principal improvement has been in the increased use of artificial food for fattening, and by the application of artificial manures, *per se*, principally bone dust, animalized carbon, oil-cake, nitrate of soda, and saltpetre, and by a more liberal use of rape cake, indeed to an almost indefinite extent. The effect of the first has been to enhance the quality of the farm yard manure from twenty to forty per cent. at least, while the system of feeding sheep on the land with oil cake has increased the value of the teathe and brought the land more rapidly into a much higher state of cultivation. The use of Gardiner's cutting engine has enabled the farmer to keep a larger number of sheep and cattle for grazing on the same quantity of acres. And thus have the great requisites for the light lands, sheep and cattle, been so largely increased, that Norfolk has become, as far as sheep are concerned, an exporting instead of an importing county in the space of a few years. A vast increase in the number of cattle grazed has taken place, the staple crop of her husbandry rendered more certain, while quality has been improved and quantity increased; and of this fact no greater proof can be given than that at Michaelmas, 1843, the crop of

turnips on a light land farm in West Norfolk were valued at £6 per acre, which was paid by the incoming tenant. Such is the difference between the system of manuring as well as the quality of the manure of former times and the present. The quantity now grown averages, on the light soils from twelve to eighteen tons; on the good soils it reaches twenty-four tons per acre. During the years from 1836 to 1842 inclosures again continued, and some bills were passed during this period.

But an equally and perhaps more important advance has been made in the drainage, management, and cultivation of the heavy strong soils, as they were most in arrear. The root crop here has been obtained with a comparative certainty unknown until a few years since. This has been effected, first by tile draining thoroughly at thirty-six inches in depth—by ploughing in dry weather, or if the land be so hard from drought as to defy the plough, by the use of those fine implements, Biddell's scarifier and Crosskill's clodcrusher—by never working the land when wet, or allowing a step to be set upon it after it is ploughed, but leaving it as hollow as possible for the operation of the elements. The effect has been to produce a tilth equal to that of a light soil. But this system, which brings the culture of the heavy into near approximation to that of light mixed soils, can only be fully carried out on those estates whose owners will allow the usual five ploughings, harrowings, &c. now forming part of the compulsory clauses on such soils, to be discontinued, and by giving the occupiers the security of a long lease, or compensa-

tion for improvements, but this desideratum at present has not been completely attained. The time, however, is fast approaching when that necessity which knows no control and admits of no prejudice, will point out alike to the owner and occupier that they must look for improvement and remuneration, not to the high prices generated by war, but to the stimulus which almost unrestricted covenants, the union of chemical knowledge with practical skill and mechanical ingenuity, will give to agriculture. And the foundation for this important change has been already laid by the discussions and experiments which have been carried on and disseminated through the agency of those useful bodies—The Farmers' Clubs. Though quietly and unostentatiously pursuing their onward path in the march of improvement, and in the dissemination of useful agricultural knowledge, as the brief history of their progress exhibits in another part of this report, an impression has been made on the minds of the general body of occupiers, which will be of vast advantage in the coming times, not only by enforcing just views of what is best, alike for the interests of the landlord and the tenant, but by opening a way to the progression of that intellectual attainment and superior skill, which minds, rendered acute by collision, invariably obtain, and of which the first perceptible effect will arise from the augmented produce created to satisfy the demand, an increased and daily increasing population makes upon the soil of Great Britain. Let the practical skill of the agriculturist be once based upon the principles of science,

unfettered by the trammels of prejudiced custom, and an almost inexhaustible field will be opened for its exertion. The farmers of Norfolk will then perceive, as the manufacturers have already done, that scientific in combination with practical knowledge, is indeed a power which used aright will raise them to a much higher, because a more intellectual elevation than they have yet attained. Then may they refer with exultation to the period past and gone when their first pioneer—THOMAS Wm. COKE—led the way to that dignity which he always claimed for his beloved pursuit—the dignity of a science.

The following accounts of Linseed and Rape Cake and other manures imported into the Ports of Yarmouth, Lynn, Wisbech, Blakeney, and Wells, with weight of bone dust, &c. sent out from some of the sources in the county—the number of Oxen, Cows, and Sheep brought upon Norwich Hill from 1815 to 1836, and upon Lynn Market from 1836 to 1843—and a comparative statement of the Exports of the County at the time of Kent's Report and of the present period, will in some degree demonstrate the increased outlay and exertions made in Norfolk in the last few years:—

OF NORFOLK.

ARTIFICIAL FOOD AND MANURES.

NORWICH CATTLE MARKET.

DATE.	SHEEP.	PIGS.
1816	75,701	15,659
1817	74,101	17,176
1818	84,613	17,848
1819	85,948	17,841
1820	100,099	16,863
1821	87,494	17,386
1822	95,604	18,958
1823	95,879	18,555
1824	100,870	19,224
1825	121,738	19,930
1826	127,893	18,424
1827	147,044	18,526
1828	159,003	19,700
1829	135,352	18,362
1830	137,412	18,099
1831	127,909	18,911
1832	125,543	19,728
1833	129,548	20,662
1834	128,682	20,278

DATE.	SHEEP.	PIGS.	BULLOCKS.	COWS.
1835	137,502	19,186	(6 weeks) 4,796*	(6 weeks) 519
1836	214,480†	29,267†	40,390	4,032

* An account of the beasts was only taken during these two periods, as no toll is demanded for cattle.

† The vast addition in this year it may be difficult to account for in any other way than by stating, that in this latter year two persons were appointed to check the account of the then Clerk by a positive examination. I have applied to the Lessees for accounts of the Sheep and Pigs since 1837, but their reply is, that they keep no separate account.

1816.		1817.		1818.	
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.
327	315	426	285	461	134
269	350	413	297	462	307
462	298	431	305	773	347
354	291	451	264	489	284
418	282	422	294	582	301
341	227	465	254	661	287
261	216	496	227	993	372
862	224	1204	246	1022	293
864	256	1328	291	1107	251
917	233	1251	283	1091	247
1244	349	1207	311	1264	293
1898	383	1083	287	2176	280
1722	296	1247	306	288	257
1289	262	2449	420	1292	343
2268	7	269	258	1323	333
240	239	393	322	1035	254
1681	258	2205	337	1863	325
2807	289	1887	313	1814	347
2982	256	2957	486	2816	433
2636	281	2983	374	2747	449
2956	322	2674	402	3089	385
3184	306	1952	337	2844	496
1954	304	2011	356	3144	331
1367	223	2626	404	2549	338
1904	280	1628	217	1833	282
1192	247	1696	287	1696	293
1445	230	1203	242	1669	322
1188	235	1191	233	1993	344
1202	250	1872	257	3174	293
1438	288	1186	227	1209	211
2296	404	2724	283	2513	307
2405	376	2675	343	1863	224
2583	335	2429	401	1883	302
2714	305	2451	374	1197	329
2466	377	1505	249	846	248
1289	292	1424	298	964	251
1915	302	825	227	1413	282
947	280	1894	307	2198	425
1252	235	1243	286	2813	411
126	255	1502	282	2824	448
1749	296	1887	416	2437	403
1624	222	1827	345	2767	386
1326	307	1565	489	1373	310
1955	324	1874	238	1817	382
1370	594	858	427	1622	493
1766	502	707	353	1304	447
858	334	938	314	1436	444
1324	356	654	310	1786	462
1274	331	624	452	1333	483
928	302	887	345	982	468
942	329	976	322	866	377
462	296	685	351	819	331
448	309	741	242	513	213
75,701	15,659	74,101	17,176	84,613	17,848

1819.		1820.		1821.	
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.
469	204	689	354	388	245
481	235	348	174	471	300
512	277	535	207	324	248
564	309	271	143	371	306
656	337	329	411	573	346
467	304	545	369	587	304
847	329	658	387	693	348
772	251	666	313	777	314
864	289	354	322	640	343
758	368	288	265	707	351
768	282	232	325	924	413
877	325	516	358	945	407
877	325	493	449	451	278
786	352	1827	320	976	244
1564	367	230	368	1222	293
2440	540	2473	227	2576	22
2247	374	3093	265	464	308
2823	267	4067	151	3252	322
3002	327	4153	164	3272	345
2688	331	4111	198	2487	286
3293	337	3824	226	2611	317
2987	393	4053	184	3088	296
2885	329	2844	133	3049	251
2663	381	2953	204	2686	284
2004	316	2982	230	2758	328
1784	329	2431	249	2109	351
1877	309	2460	323	3053	311
2493	310	2686	342	2491	322
8263	331	3213	307	2046	360
2242	293	2503	302	1131	282
2483	274	2426	277	2428	355
2416	282	3073	262	3431	308
1958	288	3364	287	2462	345
933	325	2456	325	2714	310
907	282	1586	346	1890	324
1206	276	1363	316	1234	253
1069	308	1337	333	396	287
1864	336	2222	391	2189	317
2486	309	2265	329	2085	328
2407	342	3522	314	2273	364
2106	391	1924	313	2677	419
2424	322	4060	387	3371	423
1529	356	2036	405	2629	463
1887	345	2671	482	2102	486
1838	417	1902	433	1247	332
1667	401	1396	389	1554	406
1586	412	1449	433	1254	427
1415	421	1208	455	1124	443
1333	402	1044	471	834	316
653	364	728	502	771	354
924	345	722	329	712	418
548	293	591	337	508	345
364	268	394	306	487	244
85,948	17,841	100,099	16,863	87,494	17,386

1822.		1823.		1824.	
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.
464	282	616	266	1168	894
516	307	610	392	780	404
470	292	863	400	996	427
336	246	632	310	1454	486
531	314	613	320	1336	406
636	318	628	262	1076	334
1224	344	488	310	1027	372
1364	370	1190	368	1312	414
3420	342	1026	384	1252	254
1247	382	1224	346	932	269
1234	366	1474	412	1503	390
1224	402	1283	446	1247	366
575	324	2725	43	1332	389
2646	320	767	350	992	310
530	323	1630	360	1569	408
1333	351	2210	376	2974	36
2149	377	2485	345	334	386
8156	362	2704	370	2632	404
2446	348	8106	330	2764	350
2544	353	2400	344	2810	372
2193	386	2249	444	2090	414
2678	346	2910	414	3043	464
2856	330	2552	306	4234	248
3492	257	2727	233	8166	254
2444	288	2260	186	3227	204
2525	329	2975	207	3887	352
2457	343	8004	202	3104	216
2672	246	8132	244	3667	264
2200	337	2024	290	2106	334
1786	334	2186	272	2377	287
2489	333	3051	314	2034	305
2285	298	8534	307	2215	332
2530	333	8144	352	3302	354
2142	338	2286	320	2733	342
1265	284	1356	307	1607	336
2296	330	1823	302	1465	327
1907	344	1584	303	348	360
2446	349	2489	327	1530	351
2666	468	2700	436	2424	406
2411	496	2631	444	2407	429
2586	453	2384	490	2167	419
3538	490	2416	455	2746	429
1852	429	1906	404	2707	462
2228	456	1855	446	1873	489
1348	416	1249	422	1314	525
1640	452	1504	440	1472	465
853	336	1032	416	1366	431
1251	427	1070	444	1295	496
885	457	946	458	1237	416
978	481	1047	430	1186	392
850	444	1024	406	1307	384
777	406	973	404	1212	409
993	269	1002	396	532	177
95,604	18,958	96,879	18,555	100,870	19,224

1825.		1826.		1827.	
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.
1525	370	1076	422	872	377
907	384	1008	410	1088	437
1066	464	909	366	634	237
987	384	814	352	444	267
1146	372	1157	404	912	345
1104	346	1092	422	1136	491
1116	406	1028	372	697	249
992	370	1007	349	672	265
1369	390	1087	251	624	370
1110	364	1252	395	1012	327
1604	375	1067	296	848	271
1296	354	2646	13	1237	329
1432	394	372	249	2074	336
3629	44	2774	370	2509	411
806	345	2847	392	4932	12
1817	374	2993	386	1506	284
2446	410	3053	252	3086	245
2151	374	3265	272	4434	315
2994	369	3012	291	5045	289
2752	322	3686	344	4487	329
2204	336	3424	312	2772	336
2832	370	2934	385	3749	272
3952	289	3053	252	2949	352
3606	316	3460	329	3234	283
3654	283	3449	266	3291	276
4067	313	4118	294	5132	336
3406	269	4432	246	5236	436
4709	364	4844	269	5267	366
3906	372	4289	250	5667	343
2083	311	3060	274	5346	343
2594	309	3027	289	3078	343
2827	342	3492	374	5900	271
3654	292	3327	411	5927	514
2828	331	2916	308	3649	267
2763	312	3052	312	3572	366
2050	852	1893	372	2498	273
1844	355	2409	391	3095	441
2876	416	3504	447	3820	305
2991	426	3129	410	5779	355
4212	467	4057	464	4562	210
2748	367	3160	392	4511	325
3212	396	4074	368	4118	313
3180	492	3309	394	3849	339
2394	510	2764	407	2665	418
1890	464	2713	447	3075	278
1932	426	1112	324	1242	395
1438	469	1911	487	1273	628
1432	509	1287	411	1365	356
1214	326	1290	372	1130	327
1271	404	1029	375	1743	519
1296	410	932	388	1805	336
1012	374	1141	326	672	467
1052	402	1294	270	1797	449
1067	346	946	317	424	865
121,738		19,980	127,893	18,424	147,074
					18,526

1828.		1829.		1830.		
Sheep.	Pigs.	Sheep.	Pigs.	Sheep.	Pigs.	Horses.
2065	364	1070	383	1032	291	11
1821	225	1620	283	507	366	24
687	281	1242	314	405	101	4
1449	494	795	101	572	182	3
1701	340	721	251	524	261	12
1979	301	870	274	383	128	6
1754	277	788	310	459	258	20
2586	564	1412	424	941	350	18
1955	332	1720	311	1911	324	21
1963	422	1833	348	1654	328	26
3161	428	2788	392	3248	384	16
2557	250	3769	280	2785	342	19
2894	270	3245	253	3724	269	50
6365		2537	350	1607	228	12
1869	323	2266	332	7236	25	100
3931	402	4587	7	904	265	3
4067	502	737	251	4017	366	30
3940	486	2090	311	3093	335	23
4207	576	2710	385	3814	379	44
4511	438	3984	282	2814	301	36
5005	485	4084	318	3236	295	34
4470	238	3731	283	3837	248	47
4225	331	3734	292	4212	273	61
3893	389	3384	301	3668	334	49
4030	347	3095	309	3246	236	48
2642	166	3231	245	4323	428	50
3858	327	3442	271	4305	330	
3829	284	4283	306	4484	271	13
3704	242	4098	297	4235	325	57
3628	230	2934	341	3092	366	46
6585	416	5834	423	3756	349	40
6806	341	4324	384	4096	342	29
4491	362	5483	534	5420	560	37
2152	287	2728	383	3628	411	18
1861	272	1423	328	1802	385	12
2509	522	2324	487	2683	442	19
2389	326	2424	351	2067	420	40
4822	461	3677	405	4269	435	54
4345	430	3357	441	3612	391	38
5117	479	4437	484	4569	447	85
3318	356	3026	371	2982	387	46
2327	343	3118	376	3774	413	56
4033	403	2884	447	2911	472	91
2803	396	2867	410	2631	577	35
2190	551	1602	486	2010	424	33
1630	477	1704	486	1523	448	36
1965	485	1264	513	1351	494	35
895	843	855	378	749	393	20
1347	323	1474	508	1331	446	31
1224	373	1306	401	712	414	21
861	642	1029	475	532	462	29
1634	488	1444	440	589	362	12
1021	362	568	101	147	226	32
159,003	19,700	135,352	18,362	137,412	18,099	1,732

1831.			1832.		
Sheep.	Pigs.	Horsea.	Sheep.	Pigs.	Horsea.
791	308	8	821	382	19
466	376	39	709	341	20
315	205	14	607	308	28
304	267	10	640	307	26
429	286	10	771	272	30
313	188	7	846	448	36
704	276	43	1210	324	38
725	308	32	1065	285	38
1024	288	34	1132	355	11
1079	325	40	1484	327	32
1781	814	25	1691	390	22
2010	269	27	2133	342	27
2259	302	18	2451	399	24
7470	12	111	2682	328	24
711	284	2	2027	344	10
3717	340	14	5147	30	81
4553	375	25	688	252	6
3476	379	31	4086	342	14
3628	294	27	3910	371	21
3086	340	28	2019	370	
3065	405	12	4028	257	6
4044	304	31	4067	266	5
3296	295	28	3155	272	15
4036	295	34	3598	295	28
3117	314	20	2761	284	36
3132	389	27	4252	368	20
3625	324	31	4327	305	33
3915	288	24	4696	301	24
4315	289	26	4255	163	14
3892	275	8	2475	398	16
4791	380	15	5752	364	36
4201	352	24	4809	520	30
5682	515	31	3950	442	8
3873	434	9	2466	422	13
2383	406	10	1210	381	6
2115	364	39	2082	454	8
2189	456	32	2589	436	14
2392	412	20	3418	456	28
3694	426	25	3254	485	47
3590	462	42	3126	464	72
2448	415	72	3220	416	80
2740	433	58	2772	395	60
1531	371	60	2659	377	56
1411	388	56	1247	429	50
1240	374	60	978	523	48
1257	500	8	1515	557	36
1352	444	70	1098	450	30
776	413	24	1386	512	36
1034	451	36	897	493	24
808	407	34	936	544	36
863	512	33	1034	423	3
1030	384	18	824	452	18
583	295	20	588	332	36
633	313	22			
127,909	18,911	1,604	125,543	19,728	1,474

1833.			1834.		
Sheep.	Pigs.	Horses.	Sheep.	Pigs.	Horses.
750	342	21	761	320	20
557	355	30	648	368	24
691	503	36	749	461	28
586	365	20	716	384	36
797	267		868	310	20
950	348	13	1237	372	30
783	335	24	1106	351	32
1461	302	24	1661	337	
763	421	30	2376	487	30
1255	345	24	1835	347	36
1529	358	10	1561	344	14
1552	357	8	2064	388	30
1819	384	12	6407	5	104
5256	8	63	688	303	
758	301	3	3028	376	30
2104	371	24	2664	385	20
2851	272	22	2849	297	25
4050	359	16	3131	369	18
3782	356	20	3152	368	20
2528	369	14	2554	381	18
4069	282	21	3439	302	30
3670	281	8	3146	247	22
3204	287	10	4287	262	26
3712	308	20	4196	251	36
3259	327	16	4393	283	23
4303	345	23	4212	252	20
5559	421	24	4653	301	30
5608	322	20	4049	291	16
4311	299	22	6218	296	20
4081	354	30	2044	375	14
4502	415	24	4042	373	12
4798	521	18	2896	469	6
4197	548	4	2832	508	10
2487	461	5	2525	502	14
1854	436	12	2193	462	10
2118	473	12	2664	468	16
2737	480	50	2785	456	18
3307	488	48	3102	442	16
3445	455	56	2883	514	20
3199	578	50	2655	504	40
3242	443	60	3271	520	61
2642	420	34	2255	426	59
2672	384	60	2089	371	62
2288	454	40	1674	425	36
1328	541	50	1264	568	38
1577	474	36	1321	486	33
1044	457	40	1623	464	34
1432	563	20	1326	437	16
1127	508	30	1035	490	20
1097	504	14	1164	442	16
341	409	20	1304	476	15
845	462	8	882	409	15
681	309	24	260	293	10
129,548	20,662	1,323	128,682	20,278	1,349

AGRICULTURE

1835.		
Sheep.	Pigs.	Horses.
648	387	9
442	383	12
667	413	9
638	353	10
883	336	8
706	390	9
941	363	6
964	358	10
1863	465	10
1663	360	15
1282	329	12
1404	392	9
1885	334	11
2454	391	13
2961	408	4
5705	10	50
774	302	8
5152	319	
3206	381	
2525	348	9
3174	325	8
4046	265	
4469	309	
4847	235	8
4603	222	11
4945	245	14
5217	294	16
5592	261	11
6191	295	14
4050	312	10
6516	242	13
3362	416	9
3295	443	8
1666	359	
1334	351	7
2844	301	14
3317	509	9
2691	329	3
4127	487	25
3859	512	43
3956	487	40
2087	381	50
2349	385	40
2041	425	34
1418	880	19
1406	502	24
1327	484	14
1218	566	20
1021	497	25
1232	440	20
1378	446	12
830	404	11
291	175	
137,502	19,186	746

Sheep.	Pigs.	Cows and Calves.	Beasts.	Horses.
1836				
2254	386	85	1200	39
2484	407	29	240	24
2074	402	114	1180	16
5624	31	185	1200	20
465	289	119	950	14
4225	402	126	1050	9
3419	417	83	1280	13
2226	440	90	1040	14
8020	293	95	1020	7
8100	380	102	860	48
7900	437	56	1040	13
6400	374	85	740	23
6860	558	93	800	20
8240	512	79	960	15
10120	410	66	880	20
10920	454	76	1020	29
9400	554	93	920	16
7260	243	62	1050	33
8180	400	62	980	18
7960	763	76	940	30
7304	591	56	520	24
3380	520	41	720	24
3318	638	41	750	8
3960	594	36	460	33
5180	499	38	580	39
7207	560	49	540	66
6620	615	73	720	124
3124	760	87	480	81
3485	904	76	560	106
3700	662	85	370	66
2240	862	72	1560	86
1490	644	86	1420	45
1900	913	73	760	53
2616	667	56	1020	78
3080	806	65	940	20
2340	511	57	620	61
2480	730	72	860	58
1620	840	78	940	56
1700	640	95	1060	47
1280	566	56	420	27
169	125	30	320	6
860	300	42	280	26
900	646	66	260	30
193	641	92	240	18
771	639	74	280	28
805	787	89	320	49
742	679	56	420	21
1760	915	79	520	42
1264	749	71	480	50
3554	755	93	560	19
2700	879	117	680	39
2420	580	75	460	21
8187	68	80	950	10
214,480	29,267	4,032	40,390	1,882

Tombland Fair occurred twice in this period.

LYNN MARKET.

Established 1826, but no record until 1836.

Date.	Sheep.	Pigs.	Bullocks.	Horses.
1836 ...	22,180	22,121	10,435	194
37 ...	22,245	18,995	14,052	166
38 ...	25,580	26,339	17,127	239
39 ...	40,418	17,718	24,338	589
40 ...	45,680	21,986	16,630	415
41 ...	52,343	25,415	15,369	849
42 ...	48,523	26,717	14,938	540
43 ...	53,665	25,172	16,363	284

This statement does not include the beasts which are sold on the grazing grounds adjoining Lynn; a large number are thus disposed of to farmers who come from the various parts of Norfolk for that purpose. Large droves also avoid Lynn and pass by Downham, of which no account can be obtained.

A free fair was held for the first time at Lynn in 1843, when several hundred beasts were shewn, but being free, no account of the numbers was taken.

AMOUNT OF EXPORTS.

YARMOUTH.

Kent's Return.		Returns ending 31st December.				
Produce.	Quarters.	1839.	1840.	1841.	1842.	1843.
Wheat	22,466	45,813	43,594	34,354	24,574	31,544
Flour	30,578	67,159	94,144	90,752	81,968	82,174
Barley	129,884	199,149	196,448	198,730	196,331	132,455
Malt	66,579	74,677	78,084	92,899	86,492	88,649
Rye	1,715	26	44	358	107	409
Oats			249		2	
Peas	6,116	1,076	275	321	694	445
Beans	10,440	4,904	5,306	5,220	2,857	4,768

WELLS.

Produce.	Kent's Return.	1843.
Wheat	4,186	11,245 qrs.
Barley	58,375	39,697 ,,
Flour	2,634	8,727 ,,

WISBECH.*

Produce.	1843.
Wheat	95,220 qrs.
Barley	1,810 ,,
Malt	50 ,,
Rye	443 ,,
Oats	5,337 ,,
Peas	563 ,,
Beans	27,818 ,,
Seeds	3,280 ,,

* Kent gives no Return for this Port.

LYNN.

Produce.	Kent's Return.	1843.
Wheat	30,016	120,304 qrs.
Barley	112,944	62,226 ,,
Beans	4,708	17,122 ,,
Rye	12,298	3,660 ,,
Seed	2,423	632 ,,
Peas	3,855	106 ,,
Malt	10,703	29,391 ,,
Seed in Sacks .....	.....	5,733 ,,
Flour in do....	.....	32,672 ,,

BLAKENEY AND CLEY.

Produce.	Kent's Return.	1843.
Wheat	6,373	5,105 qrs.
Barley	59,176	22,113 ,,
Oats .....	.....	25 ,,
Rye	46	19 ,,
Malt	2,525	2,441 ,,
Sacks of Flour .....	.....	10,575 ,,
Tons of Potatoes .....	.....	8½ ,,

The succeeding returns of the prices of Wool in Norfolk for the last thirty years have been furnished by one of the most eminent buyers in the County. They are

the prices given during the summer and autumn months of each year after clipping time, and are as near as possible an average of the Ewe and Hogget combined.

	Per tod of 28 lbs.		Per tod of 28 lbs.
1812 ... 70s.		1828 ... 28s.	
13 ... 63s.		29 ... 24s.	
14 ... 65s.		30 ... 31s.	
15 ... 60s.		31 ... 34s.	
16 ... 50s.		32 ... 31s.	
17 ... 50s.		33 ... 37s.	
18 ... 84s.		34 ... 52s.	
19 ... 50s.		35 ... 45s.	
20 ... 40s.		36 ... 48s.	
21 ... 37s.		37 ... 36s.	
22 ... 35s.		38 ... 45s.	
23 ... 35s.		39 ... 40s.	
24 ... 28s.		40 ... 32s.	
25 ... 40s.		41 ... 28s.	
26 ... 35s.		42 ... 27s.	
27 ... 35s.		43 ... 25s.	

Since the clip of 1843 to this time, February, 1844, wool has risen about thirty per cent.

The expenditure for the CRIMINAL and CIVIL DEPARTMENTS of the County, which must materially influence the comparative value of property and tenancy, have in the mean while risen from £6496 per annum in 1800, to £27,110 in 1841, and although decreased in 1842 to £19,378, is still a great addition to the burden of the already overweighted occupier.

The following table of the total receipts and expenditure each year since 1800 will exhibit an increase of levies and receipts from £62,511 in the first period of nine years, to £119,765 in the second period, when the New Gaol was commenced ; reduced in the third period to £115,325 ; increased from that year to 1835 to £161,375.

	Total levies. £.	Total receipts from other sources. £. s. d.	Total expense. £. s. d.
1800	... 7200	... 49 7 3	... 6496 9 1
1	... 6000	... 147 5 8	... 6819 4 11
2	... 6000	... 135 0 4	... 5841 19 9
3	... 6600	... 133 19 1	... 6551 0 6
4	... 5400	... 230 7 9	... 5688 10 4
5	... 6000	... 132 14 4	... 6076 13 5
6	... 6000	... 239 6 0	... 6587 2 9
7	... 7200	... 95 13 10	... 6861 3 11
8	... 10800	... 147 10 9	... 10044 7 8
	—	—	—
	61200	1311 5 0	60966 12 4
	—	—	—

	Total levies.	Total receipts from other sources.			Total expense.				
		£.	s.	d.	£.	s.	d.		
1809	... 9300	...	293	1	7	...	9811	8	5
10	... 7200	...	196	1	1	...	7742	14	11
11	... 8400	...	192	17	11	...	8991	7	2
12	... 18300	...	199	6	0	...	18452	5	4
13	... 22800	...	196	5	11	...	21449	18	4
14	... 18600	...	231	17	10	...	16992	4	4
15	... 10200	...	258	15	10	...	11747	0	11
16	... 9900	...	284	0	4	...	12846	5	5
17	... 12900	...	313	1	4	...	11781	2	2
		117600	2165	7	10	119814	7	0	

	£.	£.	s.	d.	£.	£.	s.	d.	
1818	... 11400	...	625	5	11	...	11402	14	10
19	... 9600	...	318	19	4	...	12058	12	4
20	... 14100	...	512	14	3	...	13905	8	6
21	... 18300	...	387	14	2	...	16318	2	11
22	... 21000	...	394	17	4	...	13906	16	3
23	... 4200	...	350	17	10	...	13019	15	8
24	... 9000	...	233	11	7	...	11453	2	0
25	... 12600	...	167	14	8	...	11556	17	4
26	... 12000	...	133	19	3	...	14392	1	3
	112200	3125	14	4	118013	11	1	.	

	Total levies.	<i>£.</i>	Total receipts from other sources.			<i>£.</i>	Total expenses.	<i>£.</i>	a. d.
			<i>£.</i>	a.	d.				
1827	... 19800	...	667	10	3	...	16544	5	10
28	... 12600	...	334	8	10	...	15745	2	2
29	... 17700	...	359	18	2	...	16178	15	10
30	... 16800	...	346	17	3	...	17281	4	10
31	... 16800	...	3447	6	1	...	11330	2	11
32	... 19200	...	2081	14	5	...	21426	0	7
33	... 17400	...	582	16	6	...	16690	1	4
34	... 15600	...	769	8	10	...	17173	7	8
35	... 16190	...	695	0	10	...	16272	12	1
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	152090		9285	1	2		148641	13	3

The receipts and expenditure since that period to 1843 have been:—

	<i>£.</i>	<i>£.</i>	a.	d.	<i>£.</i>	<i>£.</i>	a.	d.	
1836	... 13810	...	1826	0	0	...	16926	1	5
37	... 14400	...	3375	19	4	...	17901	7	10
38	... 18000	...	3408	19	0	...	20378	12	7
39	... 19200	...	2932	19	6	...	24211	14	10
40	... 26400*	...	2887	18	5	...	26736	6	8
41	... 22800	...	3874	13	9	...	27110	7	0
42	... 16200	...	3141	3	11	...	19378	12	5
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	
	130810		21447	13	11		152642	19	9

Figures speak for themselves, and these tables shew the natural consequences which must result from a high and artificial state of the upper and middle classes, and the depravation of the lower.

* Formation of the Rural Police.

The following Tables are from Parliamentary Documents, relating to the County.

Families chiefly employed in Agriculture	37,610
Occupiers employing Labourers	5,229
Occupiers not employing Labourers	2,710
Labourers employed in Agriculture	37,466

Total amount of Land Tax assessed in Cities, Towns, and Villages of Norfolk in 1835.

	£.	s.	d.
Total amount assessed on Lands and Tenements	81,818	0	0
Amount Redeemed	19,223	0	0
Net amount assessed on Lands and Tenements	62,595	0	0
Amount assessed on Offices and Pensions	56	0	0
Total net amount assessed on Cities, &c. 1835	62,651	0	0

Amount levied for Poor and County Rate for the year ended 25th of March, 1833.

	£.	s.	d.
On Land	281,879	0	0
Dwelling Houses	63,041	12	0
Mills, Factories, &c.	8,842	19	0
Manorial Profits, Navigation, &c.	4,242	10	0
Total Levied	358,006	1	0

Average Highway Returns for Three Years, ending
October, 1812 to 1814.

	No.	£.	s.	d.
Paved Streets and Turnpike Roads	373			
All other Highways used for Wheel Carriages	4384			
Amount of Rates levied for Repairs of High-ways		13,755	0	0
Amount of Composition Money paid in lieu of Statute Labour on Highways		9,375	0	0
Total Money received by Surveyors of High-ways		23,130	0	0
Estimated value of Statute Labour performed in kind		22,921	0	0
Total expenditure in Money, and estimated value of Statute Labour		48,765	0	0
Expenditure in Law Expenses, &c. relative to Highways		360	0	0

Summary of Highway Returns in 1827 and 1839.

1827.		£.	s.	d.
Amount of Highway Rates		25,240	0	0
Area of County in square miles	2024			
1839.				
Expenditure on Highways		25,853	0	0
Length of Road in miles	4501			
Cost of Road Repairs per mile		5	14	0
Miscellaneous Receipts		202	0	3

FARMERS' CLUBS.

FIVE of these institutions exist in Norfolk. The HARLESTON, commenced in 1838, and one of the earliest in the country ; the WATTON, in 1839 ; the STOKE FERRY and the BLOFIELD, in 1840 ; and the NORTH WALSHAM, in 1841. The annual subscription to all but the Blofield, which is only half-a-crown, is fixed at five shillings, and there is in connection with each club a good library, and an Autumn Root Show for prizes.

The area over which these societies conjointly extend, is comparatively limited ; the soils differ among themselves only so much as to require modifications of the same system of husbandry, consequently their variety of proceeding has been induced more by the characters and circumstances of the members themselves, than by anything else, while the results to be most expected are agreement upon essential points, and carefully conducted experiments deciding the merits of one plan above others. Thus while practical knowledge and skill in culture, has superseded the apparent necessity of theoretical research

in one case, it has been stimulated in others by individual proficiency in science ; while in a third, a fortunate suggestion backed by liberal experiments, has gone far towards establishing a permanent benefit to Agriculture at large. But in all has a certain amount of good been attained ; theories have been tested, opinions have been compared, and those data which may have been established in individual minds, have been promulgated for the general service.

The subject most discussed by all the Norfolk Clubs has been manuring in general, and the application and merits of artificial manures. The conclusions arrived at have proved that the spirit of theoretical enquiry is abroad ; that farmers are eager to understand the why and the wherefore, and to bring their own long cultivated habits of acute observation to bear upon the new views which chemical science lays open to them. The system of cropping as connected with the compulsory clauses in leases, has been the next important question discussed, and great unanimity of opinion has prevailed as to the good sense, and justice to Landlord and Tenant alike, of placing more reliance on the discretion of the farmer. The general conviction appears to be fairly embodied in the following resolution, passed at the Harleston Club, as the prelude to a series of modifications recommended in leases, and reported at different meetings, to which the question was adjourned during two years. “ Where it can be effected without injury to the rights of the Landlord, to advocate leaving skill and science as much as possible unfettered, remembering that it is the interest

of all parties, and more particularly of the occupier, to earn the greatest possible produce from the land, at the smallest possible cost." It is a question which lies perhaps between caution and enterprize, whether it be not possible, and if so more advantageous, to obtain from the land produce in proportion to its culture, however costly that culture may be; but this the science of Agricultural Chemistry is yet too much in its infancy to decide. The general course of Farm Husbandry is so much guided by the clauses in leases here referred to, that experiments could not be very various, but the resolutions have been marked by unanimity upon grand questions—such as Rotation of Crops, Wheat and Barley sowing and Harvesting, treatment and storing of Turnips, Fencing and Draining, &c. The keep of Cart Horses may be singled out as proving the utility of free debate, and consequently of the Clubs themselves. It formed one of the earliest topics discussed at Harleston, and the Club was astonished to find that amongst a body of farmers, all residing within four or five miles of the place of meeting, all using a similar breed of cart horse, and cultivating a similar description of land, a difference of fifteen per cent. existed, whether estimated at per head for each horse, or per acre for the arable land. This discovery led to a comparison of the merits of cut and uncut food; it was discussed at all the clubs, and during the experiments made at North Walsham upon cooked compound food for cattle, and food for other species of stock, it was agreed that baked Mangel Wurzel was best adapted to give the hard worked

cart horse most nourishment with least waste, and least loss of time.

The North Walsham Club, in founding the Flax Society, and in so boldly and liberally testing the validity of the home compound to be substituted for oil cake, has perhaps established the first claim to having produced actual results, but beyond the present and tangible benefits of such Societies, lie remote effects that are even more important, and in the furtherance of which each and all bear an equal participation. Agricultural Chemistry is a new feature in farming, and being at present only theory, requires the patient investigation of practical minds accustomed to experiment, to give it fair play; for if it realize the promises of its supporters, it opens a prospect as vast as did the plough itself when it upturned the first furrow—it does indeed the same thing, it enlarges the powers without enlarging the sphere of cultivation, and it appears to be making its impression at the very moment when the agriculturist requires the aid of new and cogent means. But the difficulty is, to make the farmer read, reason, and analyze. It is not indeed to be done by the ordinary means. His is essentially a social position; he cannot withdraw himself from the active influences of the air he so constantly breathes, the expansive processes he is so constantly tending; he cannot divest himself of those hospitable influences which tempt him among his kind—nor is it desirable that he should. But Farmers' Clubs furnish the link which by uniting speculative theory and practical knowledge with just so much of sociable-

ness as secures the free interchange of thought and opinion, reconciles the anomalies which at first appear to exist. The members read in companionship, speculate in companionship, experimentalize in companionship; and in the Reports of the five Norfolk Clubs, we have examples of the manner in which different classes of minds will produce each its peculiar good. The Harleston, as the first founded, is the most cautious and practical; the Watton, convened in a district of more advanced cultivation, is more decided; the Stoke Ferry follows in the same track; the North Walsham is the boldest in experiment; the Blofield the most scientific. But all conduce to the same end, the extension of knowledge—the diffusion of liberal opinion and unfettered discussion—and the dispersion of those prejudices which formerly lay like a mist over the land, and concealed the extent of that fertility which science would seem to render inexhaustible.

WEST AND EAST
NORFOLK AGRICULTURAL SOCIETIES.

IN 1834, the WEST NORFOLK AGRICULTURAL ASSOCIATION was established, under the presidency of the late EARL OF LEICESTER, and was to a certain extent a revival of the Norfolk Association of earlier years. The object was stated to be mutual instruction and improvement in the culture of land, as well as in the breeding of stock and sheep, quality of wool, machinery, and domestic manufactoryes. The subscription was £1 per annum. The Association still continues, but it cannot be said to have fulfilled to any great extent the object of its establishment. Cattle, sheep, and wool, have been exhibited of a very high order, but these unfortunately have been somewhat confined in number, particularly the sheep, when it is recollect ed how immense is the number of flocks West Norfolk contains. The benefit therefore has not been so extensive as might have been anticipated, neither has the support from the landowners or the occupiers been so enthusiastic

as it deserved, the subscribers only amounting to between sixty and an hundred persons. The meeting, however, in 1843, was among the best for the shew of cattle ever seen, and afforded a proof of the increasing attention paid to the selection and breed of stock.

The EAST NORFOLK ASSOCIATION was founded in 1842, LORD WODEHOUSE, the Lord Lieutenant of the County, being President. It commenced under good auspices, and with the support of the large landed proprietors. East Norfolk has never been famed for its attention to breeding stock, or for sheep, but for high grazing. At the first annual meeting in 1842 the fat stock were superior ; but in 1843 there was a manifest improvement, in sheep particularly, consequent on the stimulus the Association had given. It has been lately determined to allow subscribers residing in the West to exhibit at the annual meeting, which had been originally refused ; and this it is hoped will give a higher character to the society, and be more beneficial to both districts, not only by enabling each to profit by the experience of the other, but by creating a better general understanding among the farmers of the entire county, and thus ultimately benefitting the public in common with themselves.

THE LABOURER.

THERE is no division of the history of the Agriculture of this County, in which the changes are more valuable, for the lesson they teach, or to which a deeper interest attaches, than that which treats of the **LABOURER IN HUSBANDRY**. Unhappily while other classes were gradually progressing, the moral and physical condition of the labourer was as gradually retrograding, until at one period, a complete disorganization of the rural districts of Norfolk was threatened. In order to trace this retrogression, its effects upon agriculture, and its action upon a naturally honest and industrious class, we must go back forty or fifty years, when occupations were not so extensive, when the demand for labour was above the supply, and production more adequate to consumption. At that period most of the farm servants were lodged in the houses; the occupations were comparatively small—the master and servant often worked together, and hence arose that mutual respect and attachment, which mutual dependence and mutual aid almost invariably

create. The system of weekly wages was the first blow towards weakening the ties which had hitherto bound the farm servant, under all circumstances, to his employer. Expelled from the long-cherished "home of the estate," and thus cut off both from those social communications which ensure confidence, and that supervision which imposed a wholesome though almost imperceptible restraint, the labourer sought a new dwelling, too often in an improvident marriage, and his interest centered in his own hearth. As a natural consequence, population increased, not at first perhaps in proportion to the demand for labour augmented by the inclosures, but certainly beyond the rate of wages, which underwent no addition corresponding to the rise of price in the necessaries of life. It ought, however, in justice to be stated, that in almost all the enquiries which have been made upon this point, we have invariably found the rate of wages higher in proportion when the price of corn was low than when high prices have been obtained.

The following table of wages, paid on a Farm for the last forty years, may be received as representing the customary rate of weekly payment during that period.*

* A great quantity of the work done on a Farm is put out as "Task" or "Taken Work," at which an industrious good workman, or indeed any man can earn much more than by weekly wages.

The Average Price of Wheat per coomb received, and
 Labourers' Weekly Wages, paid from 1804 to 1844,
 on a Light-land Farm.

Date.	Average price of Wheat.		Labourer per Week.	Date.	Average price of Wheat.		Labourer per Week.	Date.	Average price of Wheat.		Labourer per Week.
	s.	d.			s.	d.			s.	d.	
1804	22	5	8 0	1818	41	5½	10 6	1831	33	0	10
5	46	4	10 0	19	35	10	10 6	32	30	0	10
6	30	5	9 0	20	32	9	10 0	33	28	6	10
7	35	6	9 0	21	28	1½	9 0	34	23	4	9
8	32	6	9 0	22	19	11	8 0	35	20	0	9
9	43	6	10 6	23	24	6	9 0	36	21	0	10
10	50	0	12 0	24	29	4	9 0	37	26	0	10
11	41	6½	10 0	25	32	4	9 0	38	34	6	11
12	60	0½	15 0	26	29	0	10 0	39	32	4	10
13	55	4	13 6	27	28	0	10 0	40	31	6	10
14	32	0½	10 0	28	30	0	10 0	41	30	0	10
15	31	6	10 0	29	32	6	10 0	42	26	0	10
16	33	1	10 0	30	31	0	10 0	43	24	0	9
17	53	2½	12 6								

	£. s. d.
Total Amount of the Average Price of Wheat . . .	66 2 4
Average of 40 years per coomb	1 13 2½

	£. s. d.
Total of Labourers' Wages	20 3 0
Average per week	0 10 0½

Average amount of Labour per Acre on a Farm in West Norfolk, in periods of five years, from 1785.

			s. d.
13 years ending	1785	.	6 9 per acre.
5 do.	1790	.	7 2 "
5 do.	1795	.	8 2 "
5 do.	1800	.	11 0 "
5 do.	1805	.	15 6 "
5 do.	1810	.	19 6 "
5 do.	1815	.	22 4 "
5 do.	1820	.	23 9 "
5 do.	1825	.	21 0 "
5 do.	1830	.	24 0 "
5 do.	1835	.	23 2 "
5 do.	1840	.	26 7 "

PRICES OF LABOUR.—1843.

		From	To	
		£. s. d.	£. s. d.	
		5 2 6	5 12 6	
Harvest wages—Men				
Boys, double their ordinary earnings				
Women		0 0 2	0 7 0	per hour.
Mowing wheat		0 5 0	0 2 4	per acre.
upland grass		0 1 8	0 2 4	"
meadow		0 2 6	0 3 0	"
Hoeing turnips, scraping between drills		0 1 6	0 1 9	"
cutting out		0 2 4	0 2 8	"
scouring		0 2 6	"	"
picking		0 1 0	"	"
wheat		0 2 3	0 3 0	"
Dibbling wheat		0 6 0	0 8 0	"
beans		0 4 0	0 6 0	"
Thrashing wheat by flail		0 1 4	0 1 6	per coomb.
barley by ditto		0 0 10	0 0 11	"
oats by ditto		0 0 6	0 0 7	"
peas by ditto		0 0 8	"	"
beans by ditto		0 0 7	"	"
Filling and spreading clay		0 4 0	0 5 0	per 20 lds.
raw muck from yards		0 2 0	0 2 3	"
Turning over muck heaps		0 1 4	0 1 6	"
Spreading muck		0 3 6	0 4 0	"
Storing turnips and beet		0 7 6	0 9 0	per acre.
Ploughing oilands		0 1 9	0 2 0	"
fallow		0 1 2	0 1 4	"
Laying down fences		0 0 3	0 0 6	per rod.
Cutting off fences, scouring bank, and clearing stubbs		0 0 10	0 1 2	per "
Pulling, topping, and tailing Swedes		0 4 0	0 5 0	per acre.

The following Table is compiled from Returns

No.	Communication. of Soil.	Extent of occupation. Acres.	Number of Horses used.	Number of Oxen used for Ploughing, &c.	Flock kept, and number.	Sheep fattened, and number.	Average weight of Ewe wool.	lb.	Average of Both.	Average weight of wool off Fat sheep.
1	Mixed.	650	16	None.	250	300	"	5	"	"
2	Light.	440	15	"	600	200	"	3	"	"
3	—	550	20	"	200	200	"	5½	"	"
4	Mixed.	1000	33	"	240	1000	"	4	"	"
5	Light.	2400	40	20	1520	150	"	4	"	"
6	Mixed.	320	10	"	100	300	"	4	"	"
7	Mixed.	800	16	"	350	500	"	4	"	"
8	Light.	1000	26	"	500	400	"	4	"	"
9	Light.	1600	28	"	540	1000	"	4	"	"
10	Do.	1400	20	14	560	500	"	4	"	"
11	Mixed.	700	18	"	400	500	"	3½	"	"
12	Mixed.	430	12	"	320	300	"	5½	"	"
13	Do.	750	25	"	320	600	"	5	"	"
14	Mixed.	330	10	6	320	80	"	4½	"	"
15	Light.	1400	22	"	800	200	"	3½	"	"
16	Mixed, and Heavy. } Heavy.	320	12	"	100	600	"	3½	"	"
17	Heavy.	300	8	"	"	160	"	6½	"	"
18	Mixed.	400	17	"	"	300	"	6½	"	"
19	Heavy.	700	30	"	"	200	"	6½	"	"
20	Mixed.	180	8	"	200	180	"	4	"	"
21	Heavy.	500	16	"	"	180	"	5	"	"
22	Mixed.	400	10	6	"	400	"	6½	"	"
23	Light.	1650	20	16	700	250	"	4	"	"
24	Mixed.	500	17	4	120	120	"	6½	"	"
25	Mixed.	580	16	"	550	400	"	5½	"	"
26	Mixed.	1500	40	"	200	2500	"	7	"	"
		20,800	505	66	7870	11920	Avg. 5 lbs.			

from Occupiers in various parts of the County.

Number of Beasts fattened.	Quantity of Cake consumed.	Number of Cows kept.	Average cost of Labour per acre.	Any Labour per week.	Harvest wages.
	Tons.		£. s. d.	s. d.	£. s. d.
30	25	" 4	1 3 0	9 0	5 5 0
30	20	" 8	1 8 0	10 0	5 5 0
50	20	" 15	1 15 0	10 0	5 5 0
70	120	" 1	1 1 0	11 0	5 5 0
105	35	" 1	1 1 0	9 0	5 2 6
35	" 4	" 5	1 5 0	10 0	5 5 0
45	" 6	" 10	1 10 0	9 0	5 15 0
70	80	" 1	1 4 0	10 0	5 5 0
55	50	" 1	1 0 0	11 0	5 0 0
40	105	" 0	0 12 0	10 0	5 10 0
35	30	" 5	1 5 6	9 0	5 0 0
30	10	" 1	1 1 0	9 0	5 10 0
30	" 6	" 3	1 3 0	10 0	5 10 0
40	20	" 16	1 16 0	10 0	6 5 0
25	30	" 0	0 12 0	9 0	5 0 0
40	40	" 1	7 0	9 0	5 5 0
30	" 25	" 8	1 8 0	9 0	5 5 0
50	" 25	" 7	1 7 0	9 0	5 2 6
90	40	" 5	1 5 0	10 0	5 0 0
20	15	" 1	5 0	9 0	5 5 0
40	20	" 1	1 0	9 0	5 5 0
50	30	" 3	1 3 0	10 0	5 0 0
50	" 13	" 14	0 14 0	10 0	5 10 0
50	" 25	" 5	1 5 0	9 0	5 10 0
40	35	" 4	1 4 0	10 0	5 5 0
175	175	" 10	1 10 0	10 0	5 10 0
1325	950	118	Avg. 1 4 0 $\frac{1}{4}$	250 0	133 0 0
Averaging					
9 7 $\frac{1}{2}$ 5 6 1 $\frac{1}{4}$					

The labourer then, gradually compelled to confine his exertions to the bare support of existence, grew careless of higher considerations; first, of the respect of his superior, who had, in his way of thinking, thrown him off, and at length of his own. Thus were the first stones loosened in the foundations of the agricultural “homestead” of England, which has since been so fatally shaken from base to roof. Labour competition was increased still further by the discharge of soldiers and seamen after the peace, as well as by that of artizans whose employment had been created and continued by the commercial and manufacturing impulse and monopoly enjoyed during the war, and the consequence was that wages were reduced to the lowest possible rate. In addition to the surplus labour, came low prices, with a period of agricultural ruin, and in the struggle the labourer, under the law of settlement bound to one spot,* was restricted to the minimum of subsistence. What followed? Broken in spirit, sunk to the depths of degradation and distress, he was compelled to have recourse to parish allowance, granted with a sparing hand, both on account of the number of applicants, and

* It has been lately remarked to the writer by one well versed in the operation of the Poor Law—that while the law of settlement remains it is impossible that the prohibitory order should be carried out. The law of parochial settlement was, he said, like building a wall round a space which would contain only a given number, and the prohibitory order like attempting to force into it a larger number than it would contain. Throw the labour market open by abolishing the law of settlement, and then the able-bodied labourer may be fairly put upon his own resources. A wholesome competition will be produced; the best master will then always obtain the best men, and the best men will receive the best wages.

the distressed state of the tenantry themselves. Then came the further infliction of working on the roads or in the gravel pit, the almost only passport to a scanty allowance. These causes fully account for that moral and physical depravation, and that exasperation which has since inflicted such evils upon the proprietor, and the tenant, and such misery upon the labourer. A fourth party, the overseer, placed as he was between the rate-payer and the pauper, had a hard duty to perform, and was but too frequently the unwilling medium of inflicting injustice as well as suffering, for it was out of these circumstances that wages came to be eked out by the substitution of payment from the poor rates. Perpetual disputes between the tenantry, the labourers, and parishes, ended in an appeal to Magisterial power, and litigation only added to the pressure under which the county laboured, while the vice and crime engendered by these many causes, and fostered by recklessness, was fast hastening the population to that disorganized state, which in 1830 exhibited itself in the destruction of machinery and similar violences. The strong arm of the law was of necessity called in, and the insurrection was ostensibly controlled, but almost nightly fires throughout the county showed the spirit to which it had given birth, and succeeded in the object at which it aimed—to excite the fears of the wealthy.*

* This state of affairs gave rise to many propositions for the amendment of the then existing Poor Law, as well as to suggestions for the improvement of the condition of the labouring classes. Those which attracted most attention in this county were by Mr. Richardson, of Heydon, a

Such is the brief history of the labourer in husbandry during the interval since 1805.

gentleman very conversant with landed property in this and other counties, and the late Mr. Adams, of Swannington. The first, in a pamphlet, which was highly esteemed, made the following suggestions:—

“ **FIRST.**—The present law of settlements should be repealed; all settlements should be fixed by birth, marriage, estate, and renting of lands or tenements, and to be on counties and not on parishes.

SECOND.—That all the parishes of each county should be united and consolidated into one establishment, for the care, maintenance, and employment of their own poor, and the repair of roads and bridges.

THIRD.—That an equal rate of assessment be made upon all the rateable property in each county, collected and paid into one fund for the general purposes of the county poor rates; such assessments to be conclusive and binding for a certain number of years.

FOURTH.—That a certain number of able-bodied men should be allotted to each rate payer, according to the amount of their respective assessments; say three-fourths of the number considered to be reasonably necessary for the cultivation of his farm—this number to be employed the year round, and until altered by the consent of the county assembled for that purpose, so as to meet the ever varying state and numbers of the labouring community.

FIFTH.—That district farms of sufficient extent and convenience should be hired, to be cultivated by spade husbandry or otherwise, for the express purpose of always providing beneficial employment for all those who can not obtain work elsewhere; the produce of those farms to go in aid of the labour employed thereon and general fund, and each rate payer should, for every forty acres he may occupy, send a team of horses and cart one day in each year to this farm, at such time as may be required.

SIXTH.—Once a year or oftener, as circumstances might require, the weekly rate of allowance to the indigent and impotent poor should be fixed, and the minimum of wages to be paid on the district farm; and that every rate-payer employing less than his stipulated number should pay at the rate of 1s. 8d. per day for every man, and 6d. for every child so deficient, to be paid to the general fund.

SEVENTH.—The district farms to be directed by boards of management and practical superintendents, and for payment of the indigent poor, repair of roads, &c.

LASTLY.—The poor laws, from the 39 Eliz. up to the present time, should be revised and amended, so as to provide for the active execution of this plan, either as a national or county measure.”

Mr. Richardson's demonstration of the plan to abolish parish relief by the substitution of employment was simple. He laid before the reader the actual amount of the rates raised and the sums expended in eight parishes, containing about 15,000 acres. From these £5824. 10s. Od. had been

While the wealth of the landlord and the profits of the tenant had been rapidly augmented by the influence

collected, of which no less a sum than £3354. 1s. 9d. was shewn to have been paid to able-bodied labourers to maintain them in idleness. By means of the district farm a saving would accrue upon the eight parishes of £3237. 15s. 10d. besides the reduction of the rates to a low average. Upon the results of this employment I shall quote Mr. Richardson himself:—

" It has often been asserted and generally believed that we have more labourers than can be profitably employed, or are under any circumstances necessary; let us examine and see how the facts stand with regard to these eight parishes. They contain 15,015 acres, 444 able-bodied labourers, and 342 children of various ages, all of whom are capable of and want employment. I have shewn that 18 of these men and 15 children will be required to keep the roads in repair, and be employed by rate payers that do not occupy any land. This leaves 424 men and 326 children for all agricultural purposes, which if divided between the occupiers of the soil, there would be three men and two boys to every 100 acres, or more correctly speaking, one man to 35 and one boy to every 45 acres. Surely this number is not more than is necessary for the proper and profitable cultivation of the land? Supposing then they are all to be employed, and the men are paid 10s. per week for 48 weeks, and 5*s.* for the harvest month, and the children 3*s.* 4*d.* and 3*s.* for harvest each, the whole expence for labour would amount to 15,370*s.* a year, or about 20*s.* 6*d.* per acre—a sum not exceeding the computation which every farmer should make for necessary labour. The able-bodied labourers would earn 31*s.* a year each, independent of their children. The next consideration and question is, can the farmers afford to pay this sum, and rate of wages, according to the present price of farm produce, assuming they have their farms at fair and reasonable rents? and is it a sum sufficient for the maintenance of a man and his family without parochial relief? Both of these questions I should answer in the affirmative. I believe that these parishes may be considered and taken as constituting a fair proportion to the others of this county in all the essential particulars; Norfolk contains 1,338,880 acres—has 722 parishes, which, if divided, gives to each parish 1855 acres. The eight I have taken on a division contain 1876 acres each, so that in point of extent they form a very accurate average of this county; and I believe also of both quality and population? I therefore cannot see where the superabundance of labourers is to be found; indeed so thoroughly convinced am I of the very contrary being the fact, I would hazard any wager that if the plan I have suggested be adopted, labourers will be scarce, and the district farms will have to be cultivated by the plough, or considerably reduced. I have been in the habit for a great number of years of being practically concerned in agriculture, and seeing and observing the cultivation of land generally, in several counties in England, but more

of increased practical knowledge and skill in culture, and while general education had elevated the intellec-

especially of late in this, and I have regretted to perceive how great has been the falling off in the cultivation and produce, generally owing in a great measure to the want of more hands being employed to keep the lands clean, dry, and in a better state of tillage, and to have them always in a proper state, and ready in time to take advantage of favourable opportunities of the seasons for putting in seed and getting in the crops. I have made numerous enquiries amongst the old, steady, best informed, and experienced labourers, who have been mostly employed in thrashing both by the flail and machine, as to the produce of land now and what it was ten or fifteen years ago, and they all agree in opinion that there has been a considerable falling off, from one to two quarters of barley, and better than one of wheat per acre generally, the turnips and hay crops being neither so good nor so heavy. The farmers most to be relied on in an inquiry of this sort, themselves admit, that the falling off is about half of what the labourers have stated. My own opinion is, that neither the one nor the other is correct; but for the sake of illustration, and to keep on the safe side, I will take it at the lowest estimate, viz. four bushels of wheat and eight of barley per acre. After deducting all the pasture land, and allowing for waste, hedge rows, &c. there remains 12,000 acres of arable land, which being farmed generally on the four years' course of husbandry, there will be 3000 acres of wheat, 3000 acres of barley, 3000 acres of turnips, and 3000 acres of grass.

"Thus will the account stand, taking the average price of wheat at 7s. 6d. and barley 4s. per bushel:—

	£
Wheat 3000 acres, deficient 4 bushels per acre, 7s. 6d. per bushel	4,500
Barley 3000 acres, 8 bushels per acre, 4s. per bushel	4,800
Turnips 3000 acres, 10s. per acre at the very least	1,500
Grass 3000 acres 10s. per acre	1,500
	<hr/> 12,800

"Here, then, there is a yearly loss, at the most moderate computation, of 12,000*l.* a year to the farmers in these parishes, but the real truth goes far beyond this sum. At first view this statement will be scarcely credited or believed, but remember such things creep upon us, year after year, so gradually and imperceptibly, that we are not aware of the extent and consequences, till it is almost too late to remedy them; for when land is once let down in cultivation and overrun with weeds and poverty, it not only requires time, but much capital and labour, to restore it. Farmers, generally speaking, are slow in discovering the decrease of their property—few of them keep any thing like proper and regular accounts—so that at the end of the year, it is very doubtful, if one in ten, if he farms to any extent, can tell within one or two hundred pounds whether he is so much richer or poorer. But this 12,000*l.* is not all, for on reference to the dis-

tual position, and refined the habits of the higher and middle classes, the labourer had been subject to a neglect which had as rapidly sunk him in the scale of society—a neglect which recoiled on his superiors with double force at a later period, when it was beyond the power of the occupier to remedy the evils engendered by depression, he himself being involved in almost irretrievable ruin. No more powerful instance can be given of the state of the agricultural poor than that in 1831, in 473 parishes, 2714 men, exclusive of women and children, were out of employment; that is to say—about one-eighth of the whole population of those parishes. From the following table of the commitments to the several county prisons from 1800 to 1843, an estimate may be formed of the state of crime, due allowance being made for the increase of population.

bursements of the poor rates, it will be seen that 3344*l.* 1*s.* 9*d.* have been paid away to labourers for idleness and out of employment, for which the rate payers have received no advantage whatever; we therefore shall be justified in adding this sum to the other, which makes a total loss of 15,354*l.* 1*s.* 9*d.* a year, a sum equal to the rental of the whole land, and sufficient to pay and keep in constant employment, at a fair rate of wages, the whole of the labourers belonging to these respective parishes. In justice I must say that there are some as good farmers in these parishes as can be found in any part of the kingdom.

"This statement has been submitted to many of the best practical farmers; men well versed in business, and they cordially coincide in opinion with me, both as to the cause and the extent of the loss, as well as there not being more labourers than can be profitably employed, provided there was a regular distribution of labour according to each person's assessment. They all complain of limited means, but still believe, that under the operation of this or a similar plan, they either have or could procure the necessary capital."

Mr. Adams contended for enforcing employment by a labour-rate, upon the ground that the cultivation was let down for want of labour; that it was far better to pay a man for working than for idleness; and that production would be increased by substituting employment for relief.

Years.	Castle.	Wymond-ham.	Aylsham.	Swaffham.	Walsing-ham.	
1800	89	111	111	...	...	—
1	92	90	84	...	...	—
2	77	96	75	...	...	—
3	90	65	81	...	...	—
4	73	48	60	...	...	—
5	88	86	97	...	...	—
6	88	68	66	...	...	64
7	111	69	73	...	...	67
8	79	80	58	...	...	—
Total	787	713	705	—	—	131
1809	92	90	63	...	...	48
10	75	78	52	...	...	60
11	83	98	69	...	...	66
12	93	88	80	...	...	47
13	126	96	79	...	...	65
14	81	80	72	...	...	59
15	129	136	87	...	...	63
16	174	139	94	...	...	82
17	210	197	82	...	...	90
Total	1063	1002	678	—	—	580
1818	237	190	98	...	—	144
19	210	222	85	...	—	122
20	332	255	93	...	...	131
21	323	213	121	...	...	155
*22	363	265	173	...	205	142
23	166	276	170	...	895	116
24	111	194	193	...	414	202
25	360	192	56	...	877	204
26	514	—	—	...	246	270
Total	2616	1807	989	1637	—	1486

* The great increase of Misdemeanants in the Castle this year was occasioned by the agricultural riots, which will also account, in a great degree, for a like increase of the numbers committed to Wymondham and Aylsham Bridewells.

Years.	Castle.		Wymond-ham.	Aylsham.	Swaffham.	Walsingham.
1827	538	...	...	...	346	301
28	507	...	Closed	...	301	238
29	599	...	...	...	322	300
30	624	...	...	...	260	292
31	781	...	...	...	326	475
32	786	54	...	...	232	469
33	706	104	...	...	321	347
34	870	112	...	...	333	478
35	778	92	...	...	343	419
Total	6189	362	—	—	2784	3319
	—	—	—	—	—	—
1836	583	...	—	...	263	365
37	491	...	123	...	306	387
38	471	...	95	...	292	294
39	439	...	109	...	289	412
40	486	...	147	...	309	412
41	504	...	144	...	407	428
42	586	...	199	...	419	419
43	742	...	193	...	369	405
Total	4252	1010	—	—	2654	3122
	—	—	—	—	—	—

Total—First period, 2336; second period, 3323; third period, 8535; fourth period, 12,654; an increase between the first and second period, 33 per cent.; between the second and third period, 175 per cent.; between the third and the fourth, of scarcely 150 per cent.

The alteration in the Poor Law caused a just and important change in the position, alike of the farmer and the labourer, and with that change came an improvement in the prices of agricultural produce. The bad experience of the past produced its effects upon both classes.

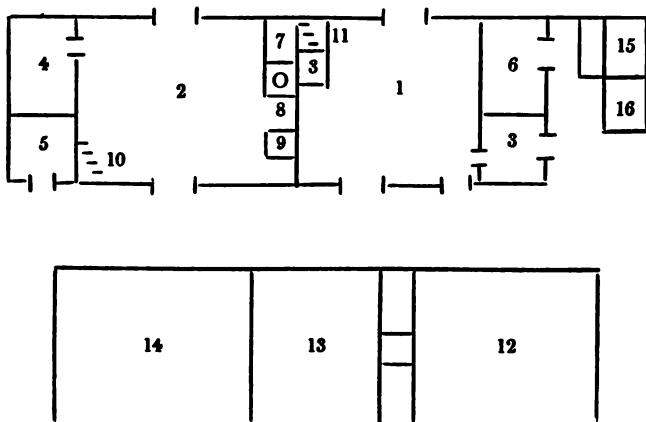
The Occupier had in some degree discovered his artificial position, the Labourer the evils of crime and shame, and both had become aware of their mutual dependence. The effect of this change has been to improve the condition of the Labourer, who is convinced that he will receive the full benefit of his own industry, and he has grown more steady, diligent, and obliging. He has looked with more deference, as well as dependence, and kindlier feelings upon his employer, while his general morals and habits have in proportion improved.

In the returns from farmers which now lay before me, there is not a single reply which does not admit a vast and beneficial change in the morals and habits and feelings of the labourer.

On the large farms in West Norfolk this is the system pursued in regard to the boarding and lodging farm servants :

A Cottage, not very far from the Farm, is occupied by the "Foreman or Bailiff" of the farm, who receives the farm servants, is responsible for their conduct, and takes care that they are in the house at proper hours. His wife cooks for all, takes care of the beds, washes sheets and towels, all of which are provided by the master. For this the Foreman and his wife live rent free, receive a shilling a head for each lodger, which is considered part of his wages. The Team-men and Lads are thus paid :—The men from six to seven shillings a week for board wages, and yearly wages varying from £6. to £7. The Lads five shillings a week for board, and yearly wages from 20s. to 50s.

I add a Ground Plan of the Cottage thus occupied by the farm servants, on the occupation of Mr. HENRY OVERMAN, of Weasenham.



- | | |
|------------------------|-----------------------------|
| 1 Foreman's Kitchen | 9 Oven |
| 2 Servants' Kitchen | 10 Servants' Bedroom Stairs |
| 3 Pantry | 11 Foreman's Bedroom Stairs |
| 4 Servants' Pantry | 12 Foreman's Bedroom |
| 5 Wash-house | 13 Farm Lads' Bedroom |
| 6 Coal-house | 14 Men Servants' Bedroom |
| 7 Servants' Coal-house | 15 Piggery |
| 8 Copper for Cooking | 16 Privy |

O The Chimnies.
The Spaces indicate the Doors and Windows.

The system of Cottage Allotments, wherever adopted, has also been found a great inducement to industry and sobriety; the public-house has been forsaken for the garden, and the home of the labourer has become more happy as his moral and social worth has brightened it. To these improvements, wrought by Legislative enact-

ment and private benevolence, the owners, occupiers, and the clergy, have added their assistance, by the establishment of Associations for the Reward of Industry and deserving Labourers and their Children, and these have not been the least effective among the various provisions for convincing the humbler orders, that they whose lot has been cast above them, are not neglectful of the comforts, unobservant of the conduct, or unwilling to reward the industry, attachment, and morality of the dependent classes. Nor should the reward granted by Horticultural Societies to Cottagers pass unnoticed. A still more important feature in the case is the erection of Schools for the Education of the Children, thus preparing the way still further for the preservation of the moral condition of those who are to form the future industry and wealth of England.



The following documents, referring to rural connections and conduct since 1835, will tend to exhibit in some degree the result of these improvements; and although it can scarcely be expected that the effects of so alarming a disorganization of society as that which had grown with its growth and strengthened with its strength, should be entirely overcome in a few years, it must be nevertheless acknowledged that a portion of the evil has been remedied and a somewhat healthier tone given to the agricultural population.

A Statement circulated in 1840, of the number of Daily and Sunday Schools in connection with the Church, in Norfolk, partly or altogether charity, (distinguishing such as are in Union with the National Society) and also the number of Children educated in them:—

Total of Daily and Evening Schools in connection with the Church, partly or altogether Charity	287
Daily and Evening Schools not in Union with National Society	189
Daily and Evening Schools in Union with National Society	98
Total of Church Sunday Schools	423
Sunday Schools not in Union with the National Society	308
Sunday Schools in Union with the National Society	115
Total of Boys in all the above Schools	11,437
Total of Girls in all the above Schools	13,545
Boys at Daily Schools	6,658
Girls at Daily Schools	7,527
Boys at Sunday Schools only	4,779
Girls at Sunday Schools only	6,018

Since this report was published an addition of from four to five thousand children, under education in connection with the Church in this County has been made.

COUNTRY

Abstract shewing the Country of Birth of the

HUNDRED, &c.	Born in England.			
	In the County of Norfolk.		In other Counties.	
	Males	Females	Males	Females
Blofield Hundred	2704	2747	65	112
Brothercross Hundred	2058	2152	55	63
Clackclose Hundred	9155	8974	1167	1049
Clavering Hundred	3034	2962	281	399
Depwade Hundred	5066	5080	133	130
Diss Hundred	4186	4166	527	625
Earsham Hundred	3613	3644	481	759
Erpingham, North Hundred	4951	5172	152	188
Erpingham, South Hundred	7488	7678	114	120
Eynsford Hundred	5368	5599	94	130
Flegg, East Hundred	1689	1594	29	53
Flegg, West Hundred	2065	2217	28	46
Forehoe Hundred	6703	6818	112	174
Freebridge Lynn Hundred	6429	6498	164	187
Freebridge Marshland Hundred	5662	5582	897	956
Gallow Hundred	4565	4676	142	175
Greenhoe, North Hundred	4795	5229	141	167
Greenhoe, South Hundred	4873	5055	168	172
Grimshoe Hundred	3324	3240	244	241
Guildeross Hundred	3187	3127	228	335
Happing Hundred	3476	3576	54	72
Henstead Hundred	2734	2709	73	89
Holt Hundred	4773	5058	102	132
Humbleyard Hundred	2810	2829	74	102
Launditch Hundred	6524	6469	106	98
Loddon Hundred	3476	3557	271	355
Mitford Hundred	5437	5757	144	144
Shropham Hundred	4138	4159	144	165
Smithdon Hundred	4385	4521	111	125
Taverham Hundred	3891	3930	101	151
Tunstead Hundred	5074	5434	117	119
Walsham Hundred	2388	2336	59	64
Wayland Hundred	3500	3604	82	78
King's Lynn Borough	6393	7931	729	705
Norwich City	25466	31381	2148	2342
Thetford Borough	1427	1680	339	427
Yarmouth Great Borough	9060	11686	1226	1667
Totals	185,767	198,827	11,102	12,916
Grand Totals	384,594		24,018	

63 Males and 54 Females have emigrated to the Colonies

OF BIRTH.

Persons enumerated in the County of Norfolk.

Born in Scotland.		Born in Ireland.		Born in British Colonies.		Foreigners in the County and British Subjects born in Foreign Parts.		Not specified where Born.	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
..	1	2	8	..	..	1	2	13	10
2	7	4	4	..	..	2	2	18	17
11	5	43	26	..	..	4	2	50	36
..	..	1	1	..	..	..	2	6	12
1	..	1	4	..	..	1	..	23	5
3	2	6	6	..	..	2	..	12	8
5	..	3	8	..	..	1	..	9	5
11	7	9	13	..	..	1	2	19	11
7	5	12	12	..	..	4	2	32	24
3	..	8	8	..	..	2	..	23	17
1	..	..	2	..	..	2	..	10	11
..	..	6	4	..	..	..	2	9	8
..	..	1	14	..	..	..	5	29	32
7	8	1	5	..	..	6	2	54	70
8	8	4	10	..	..	2	6	58	44
1	3	10	8	..	..	5	5	30	49
9	5	9	4	..	..	42	3	18	17
7	..	11	14	2	4	2	2	39	36
2	..	5	4	..	..	1	..	29	12
4	3	2	3	..	..	..	1	18	5
1	1	10	11	..	..	..	..	48	37
1	3	..	3	..	..	2	1	6	2
4	3	..	5	..	..	3	1	9	4
4	..	8	5	..	..	..	..	8	5
6	8	4	4	..	..	1	..	40	31
2	..	1	6	..	..	..	1	8	17
2	..	1	1	2	2	..	2	21	32
3	4	7	10	1	..	1	2	12	19
3	3	3	7	1	..	..	..	48	9
8	11	14	18	..	..	4	1	14	9
3	2	3	9	..	3	1	2	22	21
5	2	2	2	..	..	2	2	16	5
1	3	5	12	..	..	1	..	20	34
..	1	5	5	..	..	3	..	..	..
68	27	25	17	..	..	43	7	40	54
102	66	179	158	2	..	81	51	191	177
5	2	7	5	..	..	4	3	19	16
36	84	42	40	..	..	27	10	166	92
333	224	453	471	8	13	251	119	1187	993
<u>557</u>		<u>924</u>		<u>21</u>		<u>370</u>		<u>2180</u>	

and Foreign Countries since the 31st of December, 1840.

AYLSHAM UNION. 46 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .				850					
September .				1254					
December .	39	48	77	451	666	960			
1837—March .	73	72	126	482	625		1045	1411	1163
June .	55	65	143	410	615	928			
September .	34	40	68	360	594	745			
December .	41	43	76	362	598	699			
1838—March .	72	64	194	379	571	697			
June .	36	47	87	348	570	701			
September .	26	29	66	363	549	657			
December .	46	53	131	345	574	679			
1839—March .	77	77	182	401	704	750			
June .	70	78	183	387	582	722			
September .	39	48	120	336	577	647			
December .	56	70	116	235	577	482			
1840—March .	82	87	148	349	583	467			
June .	67	71	145	349	574	547			
September .	62	61	127	333	548	449			
December .	88	80	136	340	536	480			
1841—March .	131	109	194	402	542	612			
June .	72	59	110	343	527	488			
September .	65	57	117	314	512	422			
December .	87	75	99	333	520	488			
1842—March .	134	106	194	400	521	641			
June .	114	98	210	394	521	631			
September .	80	69	133	348	510	498			
December .	110	79	164	382	505	551			
1843—March .	158	129	250	404	424	598			
June .	126	110	248	386	526	537			
September .	78	68	146	373	514	547			
							963	1218	1478

Average Expenditure from 1832 to 1835,

Population { Males 9,869 } 20,056
 Females 10,187 }

Contract Prices.			Relief.	
Flour.	Bread.	Meat.	In-door.	Out-door.
a. d.	a. d.	a. d.	£.	£.
39 0 per sk.				403
38 0				1710
1 11 per st.	2 0 per stone.	5 9 per st.	96	1746
2 5 "	13 0 pr. scr. 4lb.	6 9 "	168	1849
2 2½ "	11 6 "	5 9 "	579	6404
2 1 "	10 10 "	5 9 "		
2 2 "	11 0 "	5 9 "		
2 0½ "	2 1½ per stone.	6 1½ "		
2 2½ "	2 1½ "	5 6½ "		
2 6 "	2 6½ "	5 10 "		
2 3 "	2 5 "	5 9 "	767	6558
3 1½ "	3 6 "	5 11 "		
2 6½ "	2 4 "	5 10 "	246	1751
2 8½ "	11 10½ pr. scr. 4lb.	5 9 "	182	1671
2 6½ "	2 8 per stone.	6 5 "	231	1675
2 8 "	2 8 "	6 3 "	294	1759
2 7½ "	2 7½ "	6 0 "	264	1693
2 5½ "	2 6 "	5 10 "	250	1594
2 5 "	2 4½ "	6 0 "	297	1548
2 4 "	2 4 "	5 3 "	349	1626
2 4 "	2 3½ "	5 8 "	243	1498
2 1 "	2 2 1½ "	5 11 "	231	1448
2 5 "	2 4 "	6 5 "	268	1516
2 5 "	2 9 "	6 4 "	429	1602
2 0 "	2 4 "	5 11 "	344	1547
2 8 "	2 2 "	5 6 "	285	1612
1 11 "	1 11 "	5 7 "	321	1458
1 8 "	1 8 "	5 2 "	367	1475
1 8 "	1 8 "	4 10 "	893	1478
1 10 "	1 9 "	5 2 "	271	1475

three years, £20,391.

BLOFIELD UNION. 32 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .									
December .									
1837—March .									
June .	27	20	55	233	424	667			
September .	27	28	70	149	309	410			
December .	29	27	75	171	336	487			
1838—March .	54	39	104	198	364	503			
June .	31	26	102	152	307	368			
September .	25	22	75	136	277	321			
December .	26	33	109	182	275	294			
1839—March .	52	58	163	158	297	336			
June .	43	44	122	170	302	363			
September .	19	25	84	138	295	298			
December .	21	35	93	142	296	320			
1840—March .	55	53	121	162	308	342			
June .	38	53	118	156	298	312			
September .	25	39	98	137	268	262			
December .	32	42	96	137	275	248			
1841—March .	61	65	190	167	295	318			
June .	29	43	103	161	288	336			
September .	32	41	96	143	275	295			
December .	39	40	104	155	295	327			
1842—March .	93	61	132	201	329	363			
June .	68	65	124	167	308	362			
September .	41	51	90	151	280	314			
December .	42	52	98	158	301	348			
1843—March .	90	62	130	174	305	383			
June .	79	58	121	161	294	312			
September .	52	41	98	146	273	269			
							438	661	795

Average Expenditure from 1832 to 1835,

Population { Males 5,255 } 10,555
 Females 5,300 }

Contract Prices.			Relief.	
Flour.	Bread.	Meat.	In-door.	Out-door.
a. d. 1 3½ per st.	a. d. 7 2 pr. scr. 4lb.	a. d. 0 5 per lb.	£. 516	£. 2807
1 7½ Out-relief	8 0 "	0 5 " "		962
1 9½	10 4 "	0 6 " "		879
1 10½	10 4 "	0 5 " "		1919
2 5	12 4 "	0 5 " "		1120
1 10½ per st.	8 6 "	0 5 " "		4880
1 11½ "	9 6 "	0 5 " "		
2 4	0 7 per 4 lbs.	0 6 " "		
2 0	0 6 "	0 5 " "		
2 2	0 7 "	0 6 " "		
2 8	0 7 "	0 5 " "		
2 2	0 6 "	0 5 " "		
3 1	0 9 "	0 5 " "		
2 7	0 7½ "	0 5 " "		
2 6	0 6 "	0 5 " "	800	650
2 8	0 7 "	0 6 " "	201	651
2 8	0 7 "	0 6 " "	225	662
2 7	0 7 "	0 5 " "	301	702
2 5	0 7 "	0 5 " "	267	663
2 5	0 7 "	0 5 " "	213	620
2 1	0 6 "	0 6 " "	258	629
2 3	0 6 "	0 6 " "	301	700
2 1	0 6 "	0 6 " "	226	674
2 5	0 7 "	0 6 " "	249	633
2 4	0 7 "	0 6 " "	237	666
2 4	0 7 "	0 6 " "	294	781
2 3	0 7 "	0 5 " "	292	800
1 10	0 6 "	0 5 " "	220	685
1 8	0 5 "	0 4 " "	230	615
1 7	0 5 "	0 4 " "	273	636
1 8	0 5 "	0 4 " "	198	591
	0 5 "	0 4 " "	166	585
			36	

three years, £5815.

DEPWADE UNION. 43 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.	Children.	Males.	Females.	Children.
1835—December .									
1836—March .									
June .	228			932					
September .				1676					
December .	49	83	163	835	755	570			
1837—March .	77	104	240	781	961	1983	1742	1803	2956
June .	81	93	236	696	885	1778			
September .	72	83	160	556	859	1479			
December .	54	77	163	537	846	1318	2719	3748	6936
1838—March .	103	122	277	620	783	1525			
June .	87	109	271	555	740	1257			
September .	45	71	194	531	741	1231			
December .	49	85	198	534	722	1243	2519	3201	6113
1839—March .	95	128	304	623	705	1415			
June .	73	104	252	579	713	1278			
September .	38	72	178	502	704	1030			
December .	50	81	199	501	700	949	2358	3216	5297
1840—March .	47	108	222	568	734	1189			
June .	49	82	207	574	725	1263			
September .	36	52	141	517	713	1079			
December .	41	64	142	509	713	1051	2460	3177	5496
1841—March .	101	97	246	633	731	1367			
June .	43	59	141	571	727	1262			
September .	38	49	134	532	715	1152			
December .	67	72	175	580	733	1202	2564	3205	5693
1842—March .	99	107	233	634	743	1394			
June .	98	112	274	624	744	1312			
September .	89	102	270	541	698	1155			
December .	130	139	268	578	725	1218	2963	3440	6316
1843—March .	218	174	336	685	746	1483			
June .	165	138	311	643	733	1322			
September .	114	113	223	561	694	1159	1483	1678	3015

Average Expenditure from 1832 to 1835,

Population { Males 12,618 } 25,590
 Females 12,972 }

Contract Prices.			Relief	
Flour.	Bread.	Meat.	In-door.	Out-door.
s. d.	s. d.	s. d.	£.	£.
1 10 $\frac{1}{2}$ per st.				
1 9 $\frac{1}{2}$ "		6 0 per st.	345	428
1 8 $\frac{1}{2}$ "		8 0 "	329	1988
2 4 " "		8 9 "	411	2220
2 2 " "		8 2 "		2584
2 0 " "		8 0 "		
2 2 $\frac{1}{2}$ " "	2 2 per stone.	7 6 "	1512	9128
2 0 " "	2 0 "	7 6 "		
2 2 $\frac{1}{2}$ " "	2 3 "	6 9 $\frac{1}{2}$ "		
2 7 " "	2 6 "	6 9 $\frac{1}{2}$ "		
2 4 $\frac{1}{2}$ " "	2 4 "	6 6 "	1619	9449
3 1 $\frac{1}{2}$ " "	3 2 "	6 6 "		
2 7 $\frac{1}{2}$ " "	3 2 "	7 0 $\frac{1}{2}$ "	386	2555
2 6 " "	2 4 $\frac{1}{2}$ "	7 0 "	270	2418
2 5 " "	2 6 "	7 3 "	297	2364
2 6 " "	2 6 "	7 6 "	364	2632
2 6 " "	2 6 "	6 8 $\frac{1}{2}$ "	279	2664
2 5 " "	2 6 "	6 8 $\frac{1}{2}$ "	215	2530
2 5 " "	2 6 "	6 8 $\frac{1}{2}$ "	269	2530
2 0 " "	2 0 "	6 9 "	327	2602
2 3 " "	2 3 "	6 7 $\frac{1}{2}$ "	221	2587
2 2 " "	2 0 "	6 7 "	198	2540
2 5 " "	2 5 "	6 10 "	245	2618
2 5 " "	2 6 "	7 6 "	365	2738
2 2 " "	2 3 "	7 0 "	351	2514
2 2 " "	2 5 "	6 10 $\frac{1}{2}$ "	408	2324
1 10 " "	2 0 "	6 4 "	479	2499
1 7 " "	1 8 "	6 4 "	616	2478
1 6 " "	1 7 "	5 5 $\frac{1}{2}$ "	426	2294
1 6 $\frac{1}{2}$ " "	1 8 "	5 5 $\frac{1}{2}$ "	858	2104

three years, £24,008.

DOCKING UNION. 36 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.	Children.	Males.	Females.	Children.
1835—December . .				3034					
1836—March . .				2922					
June . .				2017					
September . .				354	627	578			
December . .	7	5	11	362	717	648			
1837—March . .	7	10	20	351	667	541	1081	2026	1798
June . .	21	20	35	288	617	467			
September . .	7	11	19	255	570	410			
December . .	35	36	63	293	576	405	1266	2493	2027
1838—March . .	42	53	106	325	610	522			
June . .	36	35	90	288	577	360			
September . .	19	22	58	247	548	347			
December . .	39	45	107	282	586	438	1215	2425	1831
1839—March . .	41	43	80	263	569	351			
June . .	34	46	98	267	580	382			
September . .	26	35	61	239	565	345			
December . .	39	43	74	249	563	281	1144	2443	1626
1840—March . .	32	35	65	258	576	320			
June . .	28	29	41	236	572	394			
September . .	22	24	36	216	549	347			
December . .	35	33	50	224	564	359	1050	2417	1717
1841—March . .	30	37	75	259	609	415			
June . .	27	36	64	231	586	422			
September . .	25	18	39	214	554	363			
December . .	49	50	105	237	584	450	1105	2499	2058
1842—March . .	53	60	117	269	611	498			
June . .	31	33	79	268	602	530			
September . .	25	24	57	228	581	457			
December . .	63	50	115	249	604	510	1196	2590	2389
1843—March . .	65	60	107	267	636	534			
June . .	44	35	87	259	640	518			
September . .	32	31	57	233	605	435	568	1311	1097

Average Expenditure from 1832 to 1835,

Population { Males 8,364 }
 Females 8,566 } 16,930

Contract Prices.			Relief.	
Flour.	Bread.	Meat.	In-door.	Out-door.
s. d.	s. d.	s. d.	£.	£.
2 6 per st.	2 6 per stone.	0 6 per lb.	10{ 1829 33{ 7298	2065 1829 } 1762 }
2 2 "	2 2 "	0 6 "	33{ 1637	1637
2 2 "	2 2 "	0 6 "	42{ 1462	1462
2 2 "	2 2 "	0 6 "	41{ 1389	1389
2 2 "	2 2 "	0 6 "	104{ 1345	1345
2 2 "	2 2 "	0 6 "	194{ 1369	1369
2 3 "	2 3 "	0 5{ 132	132{ 1380	1380
2 3 "	2 3 "	0 5{ 110	110{ 1393	1393
2 3 "	2 3 "	0 5{ 178	178{ 1517	1517
2 3 "	2 3 "	0 5{ 205	205{ 1562	1562
2 5 "	2 5 "	0 6 "	193{ 1510	1510
2 5 "	2 5 "	0 6 "	131{ 1604	1604
2 5 "	2 5 "	0 6 "	144{ 1453	1453
2 5 "	2 5 "	0 6 "	146{ 1479	1479
2 7 "	2 7 "	0 6 "	130{ 1468	1468
2 7 "	2 7 "	0 6 "	114{ 1407	1407
2 7 "	2 7 "	0 6 "	139{ 1412	1412
2 7 "	2 7 "	0 6 "	146{ 1486	1486
2 3 "	2 3 "	0 6 "	138{ 1439	1439
2 3 "	2 3 "	0 6 "	126{ 1405	1405
2 3 "	2 3 "	0 6 "	199{ 1529	1529
2 3 "	2 3 "	0 6 "	210{ 1493	1493
2 6 "	2 6 "	0 6 "	174{ 1483	1483
2 6 "	2 6 "	0 6 "	143{ 1420	1420
2 6 "	2 6 "	0 6 "	214{ 1379	1379
2 6 "	2 6 "	0 6 "	231{ 1396	1396
1 11 "	1 11 "	0 5 "	162{ 1364	1364
1 11 "	1 11 "	0 5 "	305{ 1375	2789

three years, £16,840.

DOWNHAM UNION. 34 Parishes.

Quarter ended	In-door.				Out-door.				TOTAL.		
	Adults.		Children.		Adults.		Children.		Adults.		Children.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
1835—December .											
1836—March .											
June .											
September .											
December .											
1837—March .											
June .											
September .											
December .											
1838—March .	61	67	102		245	557	794				
June .	22	39	90	188	457	503					
September .	20	36	63	154	411	407					
December .	35	49	111	168	430	441					
1839—March .	51	68	160	216	467	557					
June .	44	58	152	207	460	539					
September .	26	39	71	166	435	465					
December .	29	43	89	176	444	471					
1840—March .	38	69	133	202	469	513					
June .	29	48	118	186	431	469					
September .	18	34	81	156	413	408					
December .	37	55	110	153	397	399					
1841—March .	57	63	137	190	436	493					
June .	42	47	105	139	416	428					
September .	34	39	83	167	425	480					
December .	94	74	148	194	459	539					
1842—March .	171	99	191	250	517	631					
June .	145	69	131	210	485	499					
September .	91	50	87	201	437	456					
December .	154	52	106	212	454	510					
1843—March .	199	99	170	226	481	543					
June .	206	80	159	228	506	601					
September .	103	48	93	195	478	523					
							732	1112	1376		

Average Expenditure from 1832 to 1835,

Population { Males 9,509 } Females 9,286 } 18,795

Contract Prices.						Relief.	
Flour, at per stone.		Bread, at per st.	Meat, at per st.	Pickled Pork, at per lb.	In-door.	Out-door.	
In-door.	Out-door	s. d.	s. d.	s. d.			
		1 9					1444
		2 5					1301
		2 3					1153
		2 2					1193
		2 1					1147
2 1	2 1	2 2	7 0		176		910
2 2	2 2	2 2	6 6		185		908
2 6	2 5	2 4	6 6		148		926
2 6	2 5	2 4	6 5		209		1212
3 6	3 6	3 4	6 1½		389		1088
3 0	3 0	2 9	5 10		270		994
2 8	2 8	2 4	6 3		185		1064
2 10	2 10	2 6	6 6		280		1147
2 8	2 8	2 5	6 9		305		1044
2 8	2 8	2 5	6 5		221		982
2 7	2 7	2 4	6 0		166		973
2 7	2 7	2 3	6 3	0 7	258		1021
2 5	2 4	2 0	6 6	0 7	294		1002
2 5	2 4	2 1	6 5	0 7	212		1001
2 5	2 4	2 0	6 3	0 7	173		1092
2 8	2 6	2 3	6 3	0 7	281		1274
2 8	2 6	2 4	6 6	0 7	437		1156
2 6	2 5	2 0	6 0	0 6½	236		1123
2 8	2 7	2 3	6 0	0 6	211		1026
2 4	2 2	1 10	5 11	0 5½	234		1030
1 9	1 9	1 7	5 6	0 5	290		218
1 9	1 9	1 6	4 11	0 4½	159		1016
1 10	1 11	1 7	4 8	0 4	377		2042

three years, £10,083.

ERPINGHAM UNION. 49 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .									
December .	30	38	43	359	595	126	884	1303	399
1837—March .	49	56	97	446	614	133			
June .	49	45	68	412	596	133			
September .	39	36	55	333	593	124	1671	2590	823
December .	51	51	79	326	592	121			
1838—March .	75	79	138	386	598	105			
June .	34	63	103	363	596	101	1688	2456	1089
September .	33	45	79	328	581	95			
December .	75	72	162	341	588	97			
1839—March .	124	113	302	390	598	100			
June .	113	118	233	415	615	94			
September .	57	61	84	330	583	90	1707	2696	950
December .	57	77	114	312	583	89			
1840—March .	86	95	159	337	569	87			
June .	68	80	135	352	568	84	1680	2611	838
September .	52	68	135	322	562	81			
December .	65	74	93	316	575	86			
1841—March .	103	102	139	402	582	85			
June .	65	81	90	350	558	77			
September .	64	65	85	332	558	64	1776	2604	745
December .	63	63	91	338	575	60			
1842—March .	136	129	215	428	575	63			
June .	107	103	182	405	577	58			
September .	72	83	106	363	560	50	2115	2707	870
December .	154	111	168	382	566	46			
1843—March .	186	137	215	446	570	45			
June .	151	99	171	434	557	44	1046	1269	361
September .	78	70	104	383	543	42			

Average Expenditure from 1832 to 1835,

Population { Males 9,934 } 20,513
 Females 10,579 }

Contract Prices.					Relief.		
Flour.		Bread.		Meat.		In-door.	Out-door.
s.	d.	s.	d.	s.	d.	£.	£.
1	11	per st.					
1	11	1	"	15	4	per cwt.	
2	0	"		14	0	"	
2	6	"		17	8	"	
2	3	"		15	0	"	
2	1	"		15	0	"	
2	3	"		15	2	"	
2	1	"		14	0	"	
2	3	"		15	0	"	
2	7	"		17	6	"	
2	5	"		16	4	"	
3	3	"		20	6	"	
2	9	"		16	9	"	
2	7	1	"	17	6	"	
2	8	"		17	0	"	
2	9	"		18	0	"	
2	9	"		17	0	"	
2	6	"		16	4	"	
2	5	"		15	6	"	
2	2	"		14	0	"	
2	6	"		17	0	"	
2	4	"		14	0	"	
2	6	1	"	17	2	"	
2	5	"		17	2	"	
2	4	"		15	9	"	
2	3	"		15	5	"	
1	9	"		12	10	"	
1	7	1	"	11	0	"	
1	9	"		11	3	"	
				7	3	per st.	
				6	0	"	
				7	0	"	
				6	0	"	
				6	9	"	
				6	9	"	
				5	9	"	
				5	6	"	
				5	6	"	
				6	0	"	
				6	0	"	
				5	10	"	
				5	5	"	
				6	0	"	
				6	0	"	
				5	9	"	
				5	6	"	
				6	0	"	
				5	4	"	
				5	5	"	
				6	1	"	
				5	11	"	
				6	8	"	
				5	10	"	
				5	8	"	
				6	8	"	
				5	9	"	
				4	9	"	
				5	6	"	
				158	1	289	
				105	1	1471	
				207	1	1568	
				756	1	1807	
				1111	1	6397	
						6708	
						1861	
				354	1	1699	
				215	1	1686	
				278	1	1751	
				404	1	1743	
				330	1	1662	
				302	1	1687	
				291	1	1804	
				409	1	1705	
				322	1	1673	
				240	1	1719	
				268	1	2036	
				486	1	1711	
				380	1	1663	
				273	1	1758	
				374	1	1685	
				456	1	1755	
				318	1	1733	
				575	1	1682	
				257	1	215	

three years, £16,532.

ST. FAITH'S UNION. 30 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June . .	76	876							
September . .	95	752							
1837—March .	30	27	66	326	513	487	786	1220	1348
December . .	49	52	98	381	628	697			
June . .	63	47	117	310	571	573			
September . .	26	29	47	260	530	504			
December . .	28	29	45	256	542	509	1276	2354	2305
1838—March .	51	44	70	282	562	540			
June . .	36	36	64	249	523	451			
September . .	28	32	41	227	506	454			
December . .	43	47	69	233	522	465	1149	2278	2159
1839—March .	74	64	122	259	548	493			
June . .	68	55	103	255	547	532			
September . .	43	42	62	225	511	402			
December . .	45	53	93	255	510	416	1181	2316	2159
1840—March .	70	69	110	250	529	441			
June . .	65	69	121	267	523	445			
September . .	51	63	100	236	487	360			
December . .	68	75	102	242	492	394	1294	2815	2075
1841—March .	85	80	115	280	526	438			
June . .	63	56	120	251	508	377			
September . .	50	46	83	239	511	370			
December . .	65	63	106	253	522	366	1325	2363	2058
1842—March .	104	84	116	299	573	520			
June . .	89	90	126	275	534	390			
September . .	76	81	119	250	518	417			
December . .	104	97	155	328	572	486	1588	2579	2332
1843—March .	158	123	173	308	564	466			
June . .	86	64	115	281	544	421			
September . .	53	51	78	270	544	433	690	1203	1047

Average Expenditure from 1832 to 1835,

Population { Males 5,610 }
 Females 5,946 } 11,556

Contract Prices.			Relief.	
Flour.	Bread.	Meat.	In-door.	Out-door.
s. d.	s. d.	s. d.	£.	£.
35 0 per sack.		0 4 <i>4</i> per lb.	132	1123
40 0 "	0 1 <i>1</i> per lb.	0 5 "	56	447
36 8 "	0 1 <i>1</i> "	0 4 <i>4</i> "	99	1064
48 4 "	0 1 <i>1</i> "	0 5 "	126	1073
41 8 "	0 1 <i>1</i> "	0 4 <i>4</i> "	125	1187
40 0 "	0 1 <i>1</i> "	0 5 "	81	1096
45 0 "	0 1 <i>1</i> "	0 5 "	97	1050
40 0 "	0 1 <i>1</i> "	0 5 "	180	1041
43 4 "	0 1 <i>1</i> "	0 4 <i>4</i> "	113	1035
50 0 "	0 1 <i>1</i> "	0 5 "	121	1024
44 0 "	0 1 <i>1</i> "	0 5 "	160	1013
60 0 "	0 2 <i>2</i> "	0 5 <i>1</i> "	284	1053
48 0 "	0 2 <i>2</i> "	0 5 <i>1</i> "	196	1226
53 4 "	0 2 <i>2</i> "	0 5 <i>1</i> "	178	1189
46 0 "	0 1 <i>1</i> "	0 5 "	245	1185
51 8 "	0 2 <i>2</i> "	0 5 <i>1</i> "	323	1165
48 0 "	0 2 <i>2</i> "	0 4 <i>4</i> "	270	1228
48 4 "	0 1 <i>1</i> "	0 5 <i>1</i> "	238	1219
45 0 "	2 <i>2</i> per stone.	0 4 <i>4</i> "	287	1137
41 0 "	2 0 "	0 4 <i>4</i> "	312	1112
43 0 "	2 <i>2</i> "	0 5 <i>1</i> "	244	1203
39 0 "	2 1 "	0 5 <i>1</i> "	236	1803
46 8 "	2 4 "	0 5 <i>5</i> "	291	1115
48 4 "	2 4 "	0 5 "	359	1188
40 0 "	2 1 "	0 4 <i>4</i> "	299	1273
43 4 "	2 4 "	0 4 <i>4</i> "	298	1208
38 4 "	1 9 "	0 4 <i>4</i> "	367	1185
31 8 "	1 5 "	0 4 "	382	1187
30 10 "	1 5 "	0 4 "	228	1218
33 4 "	1 7 "	0 3 <i>4</i> "	192	1193
			420	241
			1218	

three years, £10,525.

FREEBRIDGE LYNN UNION. 32 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.	Children.	Males.	Females.	Children.
1835—December .									
1836—March .				805			805		
June .				791					
September .				617					
December .	12	9	27	225	415	490			
1837—March .	17	20	28	275	444	589	529	888	1134
June .	20	17	28	200	408	453			
September .	12	13	7	162	377	372			
December .	33	24	11	167	330	319	809	1564	1595
1838—March .	26	16	45	189	379	360			
June .	18	16	24	175	376	338			
September .	16	11	37	150	358	280			
December .	17	18	36	156	358	298	730	1544	1412
1839—March .	21	19	42	177	388	357			
June .	20	17	47	162	367	324			
September .	21	19	43	155	355	314			
December .	21	23	37	172	383	329	749	1561	1495
1840—March .	27	27	41	171	370	360			
June .	23	18	45	169	370	369			
September .	18	14	26	142	351	310			
December .	27	18	42	145	345	276	719	1515	1457
1841—March .	29	26	55	166	373	334			
June .	18	24	43	149	352	301			
September .	20	21	44	142	358	330			
December .	22	21	56	144	379	310	683	1580	1543
1842—March .	26	33	62	162	392	397			
June .	25	34	62	162	381	359			
September .	20	26	49	135	346	283			
December .	24	31	81	138	354	333	597	1573	1605
1843—March .	29	29	62	164	372	376			
June .	24	18	38	161	375	371			
September .	22	17	37	150	356	332	357	766	778

Average Expenditure from 1832 to 1835,

Population { Males 6,247 } 12,578
 Females 6,331 }

Contract Prices.			Relief.		
Flour.	Bread.	Meat.	In-door.	Out-door.	
s. d.	s. d.	s. d.	£.	£.	
2 0 per st.	2 0 per stone.	6 0 per st.	22	48	1362
2 0 "	2 2½ " "	6 0 "	62	84	1042
2 0 "	2 2½ " "	7 0 "	46	1084	1084
2 0 "	2 3½ " "	7 0 "	44	229	1147
2 0 "	2 3½ " "	7 0 "	60	954	1028
2 0 "	2 2½ " "	7 0 "	79	938	938
2 0 "	2 2½ " "	7 0 "	65	961	961
2 0 "	2 5½ " "	8 0 "	66	866	866
2 0 "	2 9½ " "	8 0 "	87	870	870
2 9½ "	2 9½ " "	8 0 "	126	862	862
3 1 "	3 1 " "	8 0 "	117	974	974
2 9 "	2 9 " "	7 0 "	111	928	928
2 9 "	2 9 " "	7 0 "	105	869	869
2 7½ "	2 7½ " "	7 0 "	105	925	925
2 8 "	2 8 " "	7 0 "	119	955	955
2 9½ "	2 9½ " "	7 0 "	108	950	950
2 9 "	2 9 " "	7 0 "	88	901	901
2 6 "	2 6 " "	7 0 "	99	857	857
2 5½ "	2 5½ " "	7 0 "	127	918	918
2 6½ "	2 6½ " "	7 0 "	101	891	891
2 8½ "	2 8½ " "	7 0 "	90	886	886
2 6½ "	2 6½ " "	7 0 "	118	897	897
2 4½ "	2 4½ " "	7 0 "	140	927	927
2 4 "	2 4 " "	6 6 "	111	880	880
2 4½ "	2 4½ " "	6 6 "	103	845	845
1 11½ "	1 11½ " "	6 6 "	129	838	838
1 10½ "	1 10½ " "	6 6 "	130	799	799
1 10½ "	1 10½ " "	6 0 "	90	790	790
2 3 "	2 3 " "	6 0 "	64	815	815

three years, £2,952.

GUILTCROSS UNION. 21 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.		Males.	Females.	Children.
1835—December .									
1836—March .									
June .	176			1085					
September .	181			175					
December .	21	41	87	311	582	931			
1837—March .	27	46	137	458	725	1227	817	1394	2382
June .	31	54	182	340	620	844			
September .	20	31	102	243	505	636			
December .	23	36	108	257	526	665			
1838—March .	55	57	178	336	554	700			
June .	22	35	121	272	518	554			
September .	10	24	82	262	492	541			
December .	25	41	134	260	498	535			
1839—March .	50	73	193	312	540	676			
June .	34	51	154	313	527	627			
September .	18	28	85	254	466	425			
December .	19	37	77	257	477	522			
1840—March .	29	53	104	280	495	575			
June .	23	44	109	261	480	522			
September .	15	32	85	216	433	399			
December .	21	45	98	210	425	400			
1841—March .	32	58	113	274	489	532			
June .	23	44	109	233	451	441			
September .	22	35	90	213	425	389			
December .	29	53	111	240	449	420			
1842—March .	54	85	161	301	456	589			
June .	50	69	160	274	477	521			
September .	29	55	111	228	424	420			
December .	60	84	145	258	448	474			
1843—March .	91	110	181	334	530	636			
June .	64	91	165	341	517	602			
September .	46	60	130	278	483	557	729	1151	1454

Average Expenditure from 1832 to 1835,

Population { Males 5,942 } Females 6,023 } 11,965

Contract Prices.				Relief.	
Flour, at per stone.		Bread, at per stone.	Meat.	In-door.	Out-door.
In-door.	Out-door.	s. d.	s. d.	£.	£.
1 10	1 10	2 0		244	1776
1 8½	1 8½	1 8½		228	1164
2 3	2 3	2 0½		175	1006
2 0	2 1	2 1	7 6 per st.	276	1273
1 11	2 0	1 9	7 6 "	923	521
2 3	2 4	2 0	7 6 "	774	4021
1 10½	2 0	2 0	7 6 "		
2 0	2 1½	2 0	6 9 "		
2 4	2 5½	2 0	6 9 "	830	4283
2 4	2 5½	2 0	6 9 "		
3 0	3 0½	2 8	6 9 "		
2 5½	2 6½	2 4	6 8 "	225	1151
2 4½	2 5½	2 4	6 8 "	137	1048
2 7½	2 8	2 0*	6 8 "	770	1082
2 5½	2 6½	2 0*	6 8 "	176	1100
2 5½	2 6½	2 0*	5 10 "	232	1010
2 4½	2 5½	2 0*	5 10 "	187	926
2 3	2 4	2 0*	5 10 "	159	792
2 1	2 2	2 0*	5 10 "	194	878
2 2	2 3	2 0*	6 2 "	219	978
2 1	2 2	2 0*	6 2 "	187	929
2 2	2 5½	2 0*	6 2 "	178	908
2 5	2 6	2 0*	6 2 "	889	915
2 2	2 3½	2 0*	6 2 "	205	1103
2 2	2 3	2 0*	6 2 "	319	972
1 10	1 11	1 9*	6 2 "	284	901
1 7	1 8½	1 9*	6 2 "	203	901
1 7½	1 7½	1 9*	5 5½ "	288	901
1 7	1 8½	1 9*	5 5½ "	341	994
			"	116	994
			"	273	936
			"	479	1831
			"	206	895

three years, £10,833.

* These are the prices of Bread baked in the Workhouse.—No contract.

HENSTEAD UNION. 37 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .				298	398	141			
September .				317	422	148			
December .				432	698	155			
1837—March .				361	657	149			
June .				26	57	65			
September .	11	6	18	261	577	121			
December .	24	24	68	258	547	72			
1838—March .	41	39	91	297	575	65			
June .	28	33	69	244	518	63			
September .	16	24	53	219	510	62			
December .	26	29	59	241	520	58			
1839—March .	45	46	86	262	542	59			
June .	38	37	68	242	494	61			
September .	23	25	52	230	522	56			
December .	28	33	61	232	529	56			
1840—March .	36	48	69	254	530	54			
June .	36	39	78	231	520	48			
September .	34	35	81	222	514	40			
December .	52	53	98	216	501	36			
1841—March .	68	65	141	234	507	38			
June .	36	37	71	202	498	32			
September .	29	31	52	208	487	28			
December .	48	42	59	220	511	23			
1842—March .	68	59	99	232	532	27			
June .	48	51	76	224	515	25			
September .	43	53	87	231	515	24			
December .	61	60	92	225	526	23			
1843—March .	93	71	104	260	550	22			
June .	53	58	87	253	534	27			
September .	48	51	69	213	527	21			
							567	770	204

Average Expenditure from 1832 to 1835,

Population {Males 5,674}
 Females 5,707} 11,381

Contract Prices.						Relief.	
Flour.		Bread.		Meat.		In-door.	Out-door.
s.	d.	s.	d.	s.	d.	£.	£.
2	0	per st.	0	1½	per lb.		1324}
2	1	"	0	3	pr. 1lb. 15oz.	1271	5497
2	4	"	0	3	"	1311	1351
2	2	"	10	0	pr. scr. 4lb.	1357	1153
2	3	"	10	10	pr. scr. 4lb.	17	4742
2	5	"	9	7	"	123	1084
2	1	"	10	0	"	193	1148
2	3	"	11	6	"	126	1074
2	5½	"	10	10	"	109	1052
2	2½	"	14	6	"	150	1045
2	6	"	12	0	"	225	1338
2	6½	"	11	6	"	172	1122
2	5	"	11	6	"	128	1045
2	5	"	11	6	"	167	1101
2	8	"	12	6	"	213	1169
2	7	"	12	6	"	198	1089
2	6	"	12	0	"	192	1072
2	7	"	13	6	"	234	1006
2	1	"	11	6	"	312	1017
2	2	"	13	0	"	192	943
2	1	"	12	0	"	162	902
2	4	"	11	6	"	172	967
2	5	"	11	6	"	247	1041
2	1	"	10	0	"	203	950
2	3	"	10	10	"	170	988
1	11	"	9	2	"	186	972
1	7	"	7	11	"	278	1087
1	7	"	7	6	"	186	998
1	7½	"	7	6	"	160	934
				4	11½	346	

three years, £10,231.

KING'S LYNN UNION. 4 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .									
December .	52	51	47	221	531	496			
1837—March .	56	62	62	271	584	106	600	1228	711
June .	62	68	64	217	526	893			
September .	38	51	50	206	544	473	1191	2435	2883
December .	51	63	66	197	505	445			
1838—March .	58	66	82	362	612	810			
June .	51	54	64	230	558	623			
September .	52	50	69	180	535	453			
December .	55	62	75	220	603	623	1147	2584	2839
1839—March .	71	68	91	288	659	841			
June .	68	76	85	222	561	560			
September .	56	61	83	141	496	419	1032	2380	2413
December .	62	66	83	171	508	489			
1840—March .	68	82	84	244	530	610			
June .	57	77	85	208	559	547			
September .	53	60	90	174	511	484	1216	2601	2821
December .	65	69	81	184	531	546			
1841—March .	69	80	99	406	714	889			
June .	69	62	110	172	498	397			
September .	90	60	79	146	507	445			
December .	77	76	114	211	502	522	1246	2461	2624
1842—March .	93	100	134	385	646	823			
June .	84	82	114	375	582	593			
September .	72	81	123	331	581	528	2064	2826	2970
December .	73	89	121	419	593	545			
1843—March .	102	111	149	608	707	824			
June .	84	86	125	655	657	622	1199	1461	1474
September	71	79	108	389	639	619			

Average Expenditure from 1832 to 1835,

Population { Males 7,547 }
 Females 9,007 } 16,554

Contract Prices.			Relief.	
Flour.	Bread.	Meat—Beef.	In-door.	Out-door.
a. d. per sack	a. d.	a. d.	£.	£.
38 0 best	No contract.	6 0 per st.	329	1199
36 0 seconds			325	1088
35 0 best	9 7 pr. scr. 4 lb.	6 0 "	277	883
33 0 seconds			1292	4892
49 0 per sack	12 1 "	6 5 "	361	1192
No contract.	11 3 "	6 3 "	319	1058
"	11 3 "	6 9 "	242	1081
12 1 "	6 9 "	310	1083	
43 6 per sack	9 6 "	6 0 "	310	1248
42 0 "	9 4 "	5 10 "	283	1060
49 0	10 3 "	7 0 "	276	1126
No contract.	12 10 "	6 3 "	346	4453
"	14 7 "	6 9 "	423	1358
"	11 8 "	6 9 "	350	1108
54 0 per sack	11 8 "	7 0 "	333	939
54 0 "	11 10 "	6 9 "	341	979
51 0 "	11 8 "	7 0 "	401	1025
No contract.	11 8 "	7 0 "	379	1055
50 0 per sack	11 3 "	6 6 "	369	995
47 0	10 10 "	6 9 "	362	999
46 0 "	11 3 "	7 0 "	424	1272
44 0 "	10 0 "	7 0 "	403	1055
No contract.	11 3 "	7 0 "	400	1023
"	5 6 pr. scr. 2 lb.	7 0 "	481	1202
47 0 per sack	5 7 pr. scr. 2 lb.	No contract.	471	1328
10 0 pr. scr. 4 lb.			444	1194
48 0	10 0 "	6 6 per st.	367	1083
No contract.	9 0 "	6 6 "	405	1162
"	7 10 "	5 8 "	488	1137
36 0 per sack	3 10 pr. scr. 2 lb.		420	1209
	7 10 pr. scr. 4 lb.	5 3 "	781	2883
No contract.	3 10 pr. scr. 2 lb.	5 9 "	361	1174
	3 9 pr. scr. 4 lb.			

three years, £9,220.

LODDON & CLAVERING UNION. 42 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.		Males.	Females.	Children.
1835—December . .									
1836—March . .									
June . .	454		232						
September . .	179		485						
December . .	55	48	46	163	333	333			
1837—March . .	71	63	67	278	436	545	567	880	991
June . .	62	55	76	195	361	375			
September . .	35	45	55	165	328	331			
December . .	42	47	54	164	323	321	955	1614	1738
1838—March . .	76	68	72	216	387	454			
June . .	55	65	83	197	351	384			
September . .	49	55	57	167	314	371			
December . .	57	61	60	172	312	328	1030	1634	1804
1839—March . .	104	85	119	229	393	402			
June . .	89	85	120	239	388	414			
September . .	59	54	64	197	355	373			
December . .	54	56	63	198	352	360	1120	1729	1868
1840—March . .	77	65	64	217	374	410			
June . .	67	61	88	230	390	426			
September . .	59	55	77	201	370	353			
December . .	57	52	62	188	358	334	1107	1732	1876
1841—March . .	84	75	106	221	371	430			
June . .	68	61	71	193	351	386			
September . .	63	50	68	196	363	381			
December . .	73	55	73	178	355	296	1098	1699	1835
1842—March . .	119	70	84	208	394	476			
June . .	106	77	97	234	410	534			
September . .	88	76	86	213	390	500			
December . .	102	79	96	214	388	515	1425	1953	2560
1843—March . .	198	99	119	270	434	618			
June . .	115	93	94	260	427	568			
September . .	83	66	62	246	421	586	704	1007	1310

Average Expenditure from 1832 to 1835,

Population { Males 7,121 } Females 7,351 } 14,472

Contract Prices.				Relief.	
Seconds Flour.	White Bread.	Meat.		In-door.	Out-door.
s. d.	s. d.	s. d.	£.	£.	£.
1 2 (Meal)	10 0 pr. scr. 4 lb.	6 9 per st.			
1 9 per st	7 8 "	8 2½ "			
1 8 "	8 6 "	6 5 "			
2 3 "	12 6 "	6 10 "	271	564	
2 1 "	11 0 "	5 10½ "	242	467	
1 10½ "	10 10 "	6 5 "	180	485	1780
2 3 "	12 0 "	6 5 "	182	467	
2 0 "	10 6 "	5 10 "	287	361	
2 1½ "	11 0 "	5 9 "	292	545	
2 4 "	12 6 "	5 10 "	294	522	2330
2 4 "	11 6 "	5 9 "	275	537	
3 0 "	13 4 "	5 8 "	391	726	
2 7 "	13 0 "	5 8 "	385	681	
2 4 "	10 6 "	6 6 "	267	639	
2 4 "	10 9 "	7 0 "	262	615	2655
2 6 "	11 3 "	6 6 "	326	720	
2 6½ "	11 6 "	6 0 "	309	727	
2 5½ "	11 3 "	6 6 "	267	698	
2 5 "	10 6 "	6 0 "	267	676	2804
2 1 "	9 9 "	6 6 "	370	703	
2 4 "	10 0 "	6 5 "	272	669	
2 2 "	10 6 "	6 5 "	275	711	2842
2 4 "	13 4 "	7 0 "	311	677	
2 5 "	13 4 "	6 10½ "	406	785	
2 2 "	10 10 "	6 0 "	321	778	
2 2½ "	11 8 "	6 3 "	289	773	3039
1 11 "	10 0 "	6 8½ "	330	730	
1 7½ "	8 4 "	8 4 "	369	758	
1 7 "	7 11 "	5 3 "	317	726	
1 8 "	8 4 "	5 4 "	237	742	1468

three years, £6,494.

MITFORD & LAUNDITCH UNION. 60 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .	60	55	93	483	637	87			
December .	61	51	92	531	744	952			
1837—March .	89	88	211	594	759	1117			
June .	77	117	301	504	744	1025			
September .	48	73	163	421	701	800			
December .	54	79	184	433	704	815			
1838—March .	82	105	254	409	711	906			
June .	36	70	201	441	696	732			
September .	30	67	195	399	689	674			
December .	55	84	214	408	683	719			
1839—March .	89	110	303	473	712	798			
June .	64	79	247	448	696	656			
September .	43	63	193	405	676	694			
December .	64	83	228	394	668	654			
1840—March .	90	109	276	418	683	676			
June .	60	92	270	405	665	681			
September .	41	74	211	347	639	515			
December .	61	77	222	352	640	514			
1841—March .	91	105	257	426	640	592			
June .	51	77	211	397	631	608			
September .	58	80	211	372	623	567			
December .	76	100	218	374	648	609			
1842—March .	104	126	274	407	651	615			
June .	107	104	255	429	647	652			
September .	83	85	200	387	627	566			
December .	87	83	173	406	644	586			
1843—March .	119	133	268	435	667	672			
June .	101	92	225	429	639	644			
September .	79	83	205	403	647	689			
							1012	1461	1763

Average Expenditure from 1832 to 1835,

Population { Males 14,095 } 28,493
 Females 14,398 }

Contract Prices.						Relief.	
Flour.		Bread.		Meat.		In-door.	Out-door.
s.	d.	s.	d.	s.	d.	£.	£.
1	8 per stone	1	10 per stone	6	6 per stone	44	72
1	7	2	0	6	0	160	1416
1	7	1	10	6	0	189	2061
2	7	2	5	5	10	370	2441
2	3½	2	3	5	0	353	2232
2	3½	2	0	5	10	238	2059
2	2½	2	3	5	3	283	2094
2	1	2	0	4	11	365	2155
2	1	2	3	4	5	303	1953
2	7	2	4	4	8	317	2150
2	5½	2	3	5	8	323	2139
3	3	3	0	5	8	527	2561
2	9	2	8	5	8	386	2366
2	6	2	5	6	0	337	2189
2	6	2	4	6	0	378	2195
2	6	2	5½	5	8	543	2315
2	6	2	5½	5	8	454	2292
2	5½	2	3½	6	0	349	2041
2	5½	2	4	6	0	417	2083
2	3	2	1	5	9	502	2159
2	5	2	2	6	0	356	2044
2	1¼	2	0½	6	6	336	2043
2	5	2	3½	6	6	452	2105
2	6	2	4	6	0	525	2184
2	5	2	3½	6	0	449	2185
2	5	2	3½	5	10	363	2079
2	0	1	10	5	10	352	2017
1	9	1	7½	5	3	419	2051
1	8	1	7½	4	8	332	1980
1	8	1	7½	4	8	315	1908

three years, £26,684.

SWAFFHAM UNION. 32 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .									
December .									
1837—March .	40	21	95	329	477	321	726	939	926
June .	43	36	113	279	426	457			
September .	18	19	63	213	416	370			
December .	35	30	84	213	417	369	1105	1822	2071
1838—March .	70	49	142	234	429	473			
June .	38	42	124	221	390	455			
September .	27	25	86	197	369	342			
December .	61	60	150	216	380	395	1089	1724	2244
1839—March .	94	80	188	235	378	504			
June .	70	64	176	229	379	480			
September .	47	34	113	216	375	446			
December .	46	31	71	199	388	437	1090	1691	2269
1840—March .	69	48	88	214	372	458			
June .	53	38	92	218	370	472			
September .	37	26	58	177	361	343			
December .	72	48	180	199	375	437	1096	1678	2212
1841—March .	105	75	162	235	385	520			
June .	62	41	87	228	375	477			
September .	64	82	76	202	370	408			
December .	95	57	114	224	381	480	1254	1733	2329
1842—March .	134	77	118	245	400	572			
June .	105	46	83	231	399	522			
September .	89	87	80	216	385	488			
December .	134	50	89	225	397	502	1408	1758	2420
1843—March .	144	58	105	264	386	551			
June .	180	47	70	262	384	577	778	836	1129
September .	116	30	51	220	375	431			

Average Expenditure from 1832 to 1835,

Population { Males 6,459 } Females 6,625 } 13,084

Contract Prices.								Relief.			
Flour, at per st.		Bread, at per st.		Meat, at per st. & lb.		Shins, at per lb.		Pickled Pork, at per cwt.		In-door.	Out-door.
s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	£.	£.
1	5	1	7							2035	
1	5	1	7							1429	
1	8 $\frac{1}{2}$	1	10 $\frac{1}{2}$							1472	
1	11	2	1							1620	
1	9	1	11							1396	
2	6	2	6	7	0	0	2 $\frac{1}{2}$	54	0	1258	
2	4	2	4	7	7	0	4	54	0	1321	
2	3	2	3	7	7	0	4	56	0	1312	
2	4	2	4	*0	7 lb.	0	4	54	0	1226	
2	2	2	2	*8	2 st.	0	4	54	0	1190	
2	3	2	3	7	7	0	3 $\frac{1}{2}$	54	0	1234	
2	8	2	8	7	7	0	3 $\frac{1}{2}$	56	0	1004	
2	10	2	10	7	7	0	3 $\frac{1}{2}$	54	0	488	
2	11	2	11	7	7	0	3 $\frac{1}{2}$	54	0	1304	
3	3	3	3	7	7	0	3 $\frac{1}{2}$	51	0	1318	
2	8	2	8	7	7	0	3 $\frac{1}{2}$	51	0	210	
2	6	2	6	0	6 $\frac{1}{2}$ lb	0	3 $\frac{1}{2}$	55	0	1181	
2	9	2	9	0	6 $\frac{1}{2}$			204		1278	
2	10	2	10	0	6			265		1278	
2	6	2	6	0	6			194		1278	
2	7	2	7	0	5 $\frac{1}{2}$			144		1184	
2	2	2	2	0	6			228		1208	
2	4	2	4	0	5 $\frac{1}{2}$			319		1262	
2	3	2	3	0	5 $\frac{1}{2}$			186		1278	
2	6	2	6	0	6			159		1173	
2	9	2	9	0	6			213		1296	
2	6	2	6	0	6			296		1411	
2	6 $\frac{1}{2}$	2	6 $\frac{1}{2}$	0	6			206		1377	
2	0 $\frac{1}{2}$	2	0 $\frac{1}{2}$	0	6			190		1317	
1	10	1	10	0	6			225		1233	
1	10	1	10	0	5			247		1283	
1	8	1	8	0	5			182		1223	
								908		255	
								898		1132	
								902			

three years, £12,545.

* The Contract Price for Suet 6 $\frac{1}{2}$ d. per lb.

THETFORD UNION. 34 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December .									
1836—March .									
June .									
September .									
December .	13	5	25	235	484	542			
1837—March .	22	19	70	267	522	584	535	1080	1221
June .	24	26	68	213	440	427			
September .	16	16	81	189	405	378	962	1868	1972
December .	25	32	61	200	425	410			
1838—March .	34	30	61	261	494	536			
June .	28	32	50	226	460	425			
September .	27	23	23	181	405	306	992	1915	1736
December .	34	31	44	207	449	380			
1839—March .	51	40	62	238	475	446			
June .	42	37	76	226	481	463			
September .	31	29	45	181	424	289			
December .	35	36	66	195	446	346	961	1947	1748
1840—March .	38	42	77	213	452	426			
June .	39	35	74	211	440	386			
September .	24	24	48	193	411	330			
December .	31	37	58	200	439	335	1010	1904	1743
1841—March .	69	59	88	243	459	424			
June .	48	41	83	218	456	383			
September .	35	28	54	215	445	412	1122	1997	1965
December .	53	33	68	204	450	382			
1842—March .	96	66	119	253	478	464			
June .	58	42	86	227	492	475			
September .	38	26	73	193	455	390			
December .	122	54	103	249	490	471	1318	2148	2265
1843—March .	143	53	103	263	536	564			
June .	174	51	99	308	523	536			
September .	77	34	75	207	473	407	766	1081	1117

Average Expenditure from 1832 to 1835,

Population { Males 5,422 }
 Females 5,629 } 11,051

Contract Prices.				Relief.			
Seconds Flour.	Bread.	Meat.	In-door.		Out-door.		
s. d.	s. d.	s. d.	£.	£.	£.	£.	£.
1 10 per st.	0 6½ per 4 lbs.	0 7 per lb.	53	1153	429	1025	
2 5 "	0 7½ "	0 7 "	91	1020			
2 5 "	0 7 "	0 6½ "	116	1011	882		
2 5 "	0 7 "	0 6 "	68		843		
2 4 "	0 6½ "	0 6½ "	118		893		
2 2 "	0 6½ "	0 5½ "	152			1004	
2 2 "	0 6½ "	0 5 "	116		978		
2 4 "	0 6½ "	0 5 "	95		948		
2 4 "	0 7½ "	0 5 "	142		979		
3 2 "	0 7½ "	0 5½ "	178		1167		
2 8 "	0 8½ "	0 5½ "	145		1086		
2 7 "	0 7½ "	0 5½ "	131		998		
2 6 "	0 7½ "	0 6½ "	145		1033		
2 7 "	0 7½ "	0 6½ "	204		1042		
2 7 "	0 7½ "	0 6½ "	162		1050		
2 6 "	0 7½ "	0 6½ "	135		984		
2 6 "	0 6½ "	0 6½ "	173		999		
2 3 "	0 6 "	0 6½ "	258		1069		
2 3 "	0 6 "	0 6½ "	177		1045		
2 3 "	0 5½ "	0 6½ "	134		1049		
2 6 "	0 6½ "	0 6½ "	178		1060		
2 7 "	0 6½ "	0 6½ "	286		1132		
2 2½ "	0 6½ "	0 6½ "	217		1069		
2 3 "	0 6½ "	0 6½ "	163		1068		
2 0 "	0 5½ "	0 6½ "	248		1153		
1 8 "	0 4½ "	0 6½ "	265		1078		
1 7½ "	0 4½ "	0 6½ "	181		994		
1 9 "	0 4½ "	0 5 "	138	619	954	1948	

three years, £9,850.

WALSINGHAM UNION. 50 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December									
1836—March									
June									
September									
December	58	73	84	417	780	734	1069	1554	1594
1837—March	95	88	55	409	613	721			
June	97	81	38	400	622	766	1743	2747	3212
September	29	29	42	361	624	693			
December	46	40	74	352	625	694	1578	2650	2846
1838—March	79	105	171	379	621	733			
June	87	48	73	352	607	662	1548	2641	2790
September	21	23	57	332	616	601			
December	32	32	101	361	630	585	1674	2608	2619
1839—March	68	58	163	375	636	604			
June	48	42	114	361	638	584	1605	2589	2732
September	33	23	63	325	616	560			
December	45	43	123	381	610	596	1799	2731	2921
1840—March	47	58	124	353	611	646			
June	44	44	120	366	593	600	1799	2731	2921
September	38	32	69	352	598	539			
December	56	50	117	360	608	450	1799	2731	2921
1841—March	66	65	149	392	618	575			
June	34	38	69	357	603	562	1799	2731	2921
September	29	31	59	337	589	527			
December	53	52	121	348	608	601	845	1357	1512
1842—March	77	73	164	370	600	629			
June	74	68	151	369	613	608			
September	48	41	101	339	605	537	845	1357	1512
December	77	67	156	374	623	581			
1843—March	116	94	207	402	625	580	845	1357	1512
June	68	55	138	384	629	661			
September	38	40	108	355	623	610			

Average Expenditure from 1832 to 1835,

Population { Males 10,121 }
 Females 10,839 } 20,960

Contract Prices.			Relief.		
Flour.	Bread.	Meat.	In-door.	Out-door.	
s. d.	s. d.	s. d.	£.	£.	
1 11 per st.	1 11 per stone.	7 6 per st.	103	589	
2 6 "	2 6 "	7 6 "	167	1991	
2 4 "	2 4 "	7 6 "	299	1992	
2 1 $\frac{1}{4}$ "	2 1 $\frac{1}{4}$ "	7 6 "		2217	
2 3 "	2 3 "	7 6 "	878	7566	
2 2 "	2 2 "	7 6 "			
2 6 "	2 6 "	7 6 "			
2 4 "	2 5 "	6 10 $\frac{1}{2}$ "			
3 3 "	3 3 "	7 0 "	761	8007	
3 3 "	3 3 "	7 6 "			
2 8 "	2 8 "	6 0 "	209	2139	
2 7 $\frac{1}{2}$ "	2 7 $\frac{1}{2}$ "	5 10 "	148	2095	
2 5 $\frac{1}{2}$ "	2 5 $\frac{1}{2}$ "	6 6 "	195	2052	
2 9 "	2 9 "	6 0 "	303	2134	
2 9 $\frac{1}{2}$ "	2 9 $\frac{1}{2}$ "	7 0 "	281	2153	
2 7 $\frac{1}{2}$ "	2 7 $\frac{1}{2}$ "	7 0 "	205	2101	
2 7 "	2 7 "	6 6 "	1054	2081	
2 2 "	2 3 "	6 6 "	248	2077	
2 5 "	2 5 "	7 0 "	320		
2 3 $\frac{1}{2}$ "	2 2 2 "	7 0 "	174	2117	
2 6 "	2 6 $\frac{1}{2}$ "	7 0 "	168	1984	
2 6 "	2 6 $\frac{1}{2}$ "	6 9 "	259	2055	
2 6 $\frac{1}{2}$ "	2 6 $\frac{1}{2}$ "	6 9 "	388	2127	
2 5 $\frac{1}{2}$ "	2 6 "	6 3 "	301	2243	
2 4 $\frac{1}{2}$ "	2 4 $\frac{1}{2}$ "	6 3 "	212	2069	
2 4 "	2 4 "	6 9 "	1217	2061	
1 8 $\frac{1}{2}$ "	1 8 $\frac{1}{2}$ "	6 3 "	310	2137	
1 8 $\frac{1}{2}$ "	1 8 $\frac{1}{2}$ "	5 9 "	394	2138	
1 8 $\frac{1}{2}$ "	1 8 $\frac{1}{2}$ "	5 5 "	213	2089	
			155	4173	
			358	2084	

three years, £21,497.

WAYLAND UNION. 25 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		
	Males.	Females.		Males.	Females.	Children.	Males.	Females.	Children.
1835—December . .									
1836—March . .	51			810			861		
June . .	56			865					
September . .	52			673			1646		
December . .	10	20	31	232	496	570			
1837—March . .	19	28	59	307	524	728	568	1068	1388
June . .	28	42	104	216	430	423			
September . .	18	22	66	161	377	359			
December . .	30	32	79	172	384	382	890	1751	1976
1838—March . .	51	53	125	214	411	438			
June . .	22	43	106	196	401	445			
September . .	20	21	73	183	387	374			
December . .	25	37	98	182	394	412	885	1753	2082
1839—March . .	41	67	153	216	403	421			
June . .	31	42	115	188	399	307			
September . .	21	25	86	177	375	297			
December . .	19	32	87	178	385	262	823	1684	1551
1840—March . .	29	37	97	185	389	300			
June . .	29	22	80	190	394	333			
September . .	20	15	48	178	390	316			
December . .	21	25	57	178	364	263			
1841—March . .	42	32	76	237	418	392			
June . .	28	13	49	195	398	310			
September . .	19	10	30	184	381	290			
December . .	44	29	58	192	377	319			
1842—March . .	61	46	88	218	414	377			
June . .	56	87	87	203	406	340			
September . .	31	32	64	183	375	286			
December . .	42	34	83	193	391	333			
1843—March . .	81	56	123	234	435	447			
June . .	69	44	132	220	413	366			
September . .	37	36	87	198	396	340	524	889	925

Average Expenditure from 1832 to 1835,

Population { Males 5,510 } Females 5,658 } 11,168

Contract Prices.				Relief.	
Flour, at per stone.		Bread, at per stone.	Meat.	In-door.	Out-door.
In-door.	Out-relief.	s. d.	s. d.	s. d.	s. d.
1 8	1 10	1 9		77	1268
1 10	1 9	2 0		69	889
1 9	1 9	1 11		58	889
2 3	2 3	2 0	7 0 per st.	115	1085
2 2	2 2	2 2	7 0		
2 2	2 2	2 2	7 0	559	3454
2 4	2 4	2 4	7 0		
2 0	2 0	2 0	7 0		
2 2	2 3	2 0	7 0		
2 5	2 6	2 0	7 0		
2 4	2 5	2 0	7 0	601	3796
3 0	3 0	2 8	7 0		
2 6	2 7	2 0	7 0		
2 4	2 6	2 0	7 0	195	922
2 5	2 7	2 0	7 0	109	905
2 4	2 7	2 0	7 0	151	960
2 5	2 6	2 0	7 0	175	958
2 4	2 6	2 0	7 0	125	972
2 3	2 5	2 0	7 0	77	901
2 0	2 2	2 0	7 0	86	902
2 0	2 3	2 0	6 10	140	972
2 1	2 2	2 0	6 10	85	915
2 4	2 5	2 0	6 10	65	865
2 4	2 6	2 0	6 10	99	904
2 1	2 2	2 0	6 7	162	1023
2 2	2 4	2 0	6 7	129	963
1 10	2 0	1 8	6 7	92	903
1 7	1 8	1 8	5 10	122	863
1 7	1 8	1 8	5 10	190	920
1 7	1 8	1 8	5 10	141	894
			"	97	876
				88	170

three years, £9,450.

FOREHOE INCORPORATION. 23 Parishes.

Quarter ended	In-door.			Out-door.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	Males.	Females.		Males.	Females.		Males.	Females.	
1835—December . .	.	.	.	.	.	.	.	.	.
1836—March . .	.	.	.	.	.	.	.	.	.
June . .	.	.	.	.	.	.	.	.	.
September . .	.	.	.	.	.	.	.	.	.
December . .	.	.	.	.	.	.	.	.	.
1837—March . .	.	.	.	.	.	.	.	.	.
June . .	.	.	.	.	.	.	.	.	.
September . .	.	.	.	.	.	.	.	.	.
December . .	.	.	.	.	.	.	.	.	.
1838—March . .	55	62	122	220	501	737	275	563	859
June . .	35	47	106	194	458	641	936	2021	2891
September . .	30	43	74	187	447	614	869	1943	2547
December . .	42	52	78	188	443	609	893	1954	2604
1839—March . .	59	72	110	203	459	659	962	2024	2737
June . .	49	80	118	184	423	594	955	1977	2421
September . .	37	62	94	163	406	534	847	1792	2339
December . .	46	67	113	167	419	510	837	1777	2214
1840—March . .	47	77	114	176	409	470	837	1777	2214
June . .	38	72	107	179	400	492	837	1777	2214
September . .	38	64	106	161	401	481	837	1777	2214
December . .	43	71	102	172	414	506	837	1777	2214
1841—March . .	58	78	117	204	454	583	955	1977	2421
June . .	47	75	106	178	424	543	955	1977	2421
September . .	43	63	100	171	418	556	955	1977	2421
December . .	65	79	113	181	418	561	955	1977	2421
1842—March . .	85	107	182	192	440	576	955	1977	2421
June . .	63	93	146	181	408	508	955	1977	2421
September . .	56	72	100	159	387	460	955	1977	2421
December . .	54	69	90	175	417	480	955	1977	2421
1843—March . .	75	87	127	192	444	510	955	1977	2421
June . .	43	67	96	194	438	525	955	1977	2421
September . .	35	67	81	165	405	457	437	977	1158

FOREHOE INCORPORATION.

Population	{ Males	6,663
	{ Females	6,866
		13,529

Quarter ended				In-door Relief.	Out-door Relief.
1839—June		£299		£860	
September		222		800	3309
December		263	1079	820	
1840—March		295		829	
June		268		822	
September		245		877	
December		264	1093	822	3399
1841—March		316		878	
June		227		839	
September		221		842	3496
December		279	1120	874	
1842—March		393		941	
June		292		826	
September		258		809	
December		234	1026	800	3274
1843—March		242		839	
June		176	338	819	
September		162		743	1562

EAST AND WEST FLEGG.

Population	{ Males	3,735
	{ Females	3,949
		7,684

Quarter ended				In-door Relief.	Out-door Relief.
1839—June		£183		£365	
September		147	681	355	1422
December		152		331	
1840—March		199		371	
June		212		340	
September		178		352	
December		186	750	337	1407
1841—March		174		378	
June		126		369	
September		133		367	
December		165		375	1524
1842—March		206		413	
June		177		412	
September		132		434	
December		148	630	437	1704
1843—March		173		421	
June		131	236	408	
September		105		395	803

TUNSTEAD AND HAPPING.

Population { Males 7,588 }
 Females 7,848 } 15,436

	Quarter ended	In-door Relief	Out-door Relief
1839—	June	£218	£394
	September	169}	866}
	December	189}	874}
1840—	March	267	900
	June	222	888
	September	182	925
	December	197	854
1841—	March	310	906
	June	230	844
	September	192	864
	December	208	920
1842—	March	331	1029
	June	212	896
	September	190	898
	December	193	841
1843—	March	236	875
	June	181	878
	September	138}	894}
		319	1772

YARMOUTH.

Population { Males 10,501 }
 Females 13,530 } 24,031

	Quarter ended	In-door Relief	Out-door Relief
1838—	June	£546	£624
	September	505	653
	December	484	571
1839—	March	587	738
	June	516	718
	September	498	758
	December	513	689
1840—	March	591	729
	June	522	686
	September	471	650
	December	513	624
1841—	March	600	670
	June	552	670
	September	547	679
	December	643	671
1842—	March	829	753
	June	740	714
	September	707	728
	December	783	853
1843—	March	775	858
	June	687	821
	September	655}	824}
		1342	1645

Expenditure for the Relief of the Poor 1839-1840.
IN THE COUNTY OF NORFOLK.

	£.	s.	d.
Amount of money levied by assessment	232,834	0	0
Received from all other sources in aid of Poor Rate	5,735	0	0
Total amount of money received	238,569	0	0
Expended in Relief, &c. of the Poor	181,058	0	0
Expended in Law charges	1,218	0	0
Payments for or towards the County Rate	20,546	0	0
Payments on account of the Registration Act—			
Fees to Clergymen and Registrars	1,155	0	0
Outlay for registers, office books, and forms, and other incidental expenses	31	0	0
Payments under Parochial Assessments Act (for sur- veys, valuations, &c.), and loans paid under the same	4,227	0	0
Money expended for all other purposes	14,887	0	0
Total Parochial Rates expended	223,122	0	0
Expended in Medical Relief, included in the amount expended for the Relief of the Poor	5,753	0	0
<i>Expended for the relief and maintenance of the Poor during the years ending 25th March,</i>			
1834	306,787	0	0
1839	192,374	0	0
1840	181,058	0	0
Amount of decrease in 1840 compared with 1834	125,729	0	0
Decrease compared with 1839	11,316	0	0
Increase in 1840 compared with 1839	"	"	"
Decrease per cent. in 1840 compared with 1834	41	0	0
Decrease per cent. in 1840 compared with 1839	6	0	0
Increase per cent. in 1840 compared with 1839	"	"	"
Expenditure per head, with reference to the population in 1831, for the years ending 25th March,			
1834	"	15	9
1839	"	9	10
1840	"	9	3
Decrease per head in 1840 compared with 1834	"	6	6
Expenditure in Law charges during the years ending 25th March,			
1834	9,535	0	0
1840	1,218	0	0
Amount of decrease in 1840 compared with 1834	8,317	0	0
Decrease per cent. in 1840	87	0	0
Expenditure for other purposes than relief of the Poor in the years ending 25th March,			
1835	29,322	0	0
1840	14,887	0	0
Amount of decrease in 1840 compared with 1835	14,431	0	0
Decrease per cent. in 1840	49	0	0
Total expenditure for the relief of the Poor, Law charges, and other purposes, exclusive of payments under the Registration and Parochial Assessments Acts, for the years ending 25th March,			
1834	345,644	0	0
1840	197,163	0	0
Total decrease in the relief of the Poor, Law charges, and other purposes, during the years ending 25th March, 1840	148,481	0	0
Decrease per cent. on the three preceding heads	43	0	0

<i>Expended for the relief and maintenance of the Poor for the years ended 25th March,</i>	<i>L.</i>	<i>s.</i>	<i>d.</i>
1834	306,789	0	0
1835	273,425	0	0
1836	230,762	0	0
1837	177,538	0	0
1838	167,784	0	0
1839	177,587	0	0
1840	181,068	0	0
Amount of decrease in 1840 compared with 1834	125,729	0	0
Decrease per cent. in 1840 compared with 1834	41	0	0
<i>Expenditure per head in reference to the population in 1831 for the years ended 25th March,</i>			
1834		15	9
1835		14	0
1836		11	10
1837		9	1
1838		8	7
1839		9	10
1840		9	3
Decrease per head in 1840 compared with 1834		6	6
<i>Expended in suits of Law, removal of Paupers, &c. for the years ended 25th March,</i>			
1834	9,535	0	0
1835	8,084	0	0
1836	6,697	0	0
1837	2,613	0	0
1838	1,637	0	0
1839	1,466	0	0
1840	1,218	0	0
Amount of decrease in 1840 compared with 1834	8,317	0	0
Decrease per cent. in 1840 compared with 1834	87	0	0
<i>Expended for purposes other than the relief of the Poor for the years ended 25th March,</i>			
1835	29,322	0	0
1836	25,844	0	0
1837	16,845	0	0
1838	16,444	0	0
1839	16,475	0	0
1840	14,887	0	0
Amount of decrease in 1840 compared with 1835	14,435	0	0
Decrease per cent. in 1840 compared with 1835	49	0	0
<i>Total expenditure for the relief of the Poor, Law charges, &c. and for other purposes, for the years ended 25th March,</i>			
1834	345,644	0	0
1835	310,831	0	0
1836	268,303	0	0
1837	196,996	0	0
1838	185,865	0	0
1839	210,315	0	0
1840	197,163	0	0
Total decrease in relief to Poor, Law, and other pur- poses, in the year 1840 compared with 1834	148,481	0	0
Decrease per cent. on the three preceding heads in 1840 compared with 1834	43	0	0

ROTATION OF CROPPING.

NOTHING is so necessary to a good system of Agriculture as to determine such a ROTATION OF CROPPING as will enable the farmer to raise throughout a series of years the greatest quantity of produce, whether of corn or meat, with the greatest return, and at the least expense of money and time. To obtain these important objects, the general character of the soil and its situation,—(for climate will have its effects)—its capability for good drainage, propinquity to a large town, and length of the tenure, are amongst the most needful considerations. The rotation of the Western Division of the county of Norfolk is principally a four-course shift—wheat, turnips, barley, seeds, although in some instances the five-course is adopted. Upon one occupation, on the four-course system, in the possession of one of the first and oldest farmers in Norfolk, and in the highest state of tillage, this course is pursued—wheat—one-fourth of the wheat stubble with peas; one-fifth of that intended for turnips sown with rye for spring feed, folded off with sheep;

then turnips, barley, and seeds: but this system can only be adopted with clean and high cultivation.

Upon some inferior light land, towards the south of the county, the five and six-course are followed; thus, under the latter—wheat, barley or oats, two years in seeds, turnips or tares for soiling sheep, rye, turnips. By this mode sheep can be folded on the land before each crop of corn.

Oats and peas are sometimes substituted for wheat. This rotation is partial, and the latter crop is only taken at long intervals on account of its exhausting nature.

The principal difficulty in rotation on all soils, has been the almost inevitable failure of clover when sown at shorter intervals than eight years, and even at that interval it is by no means certain to stand. This has been remedied by the substitution of trefoil, white clover, and ray in the period, and of tow grass, which has been found an excellent variation.

Between Aylsham and Cromer, the six-course system is pursued; on the district from Saxthorpe to Holt, and from Barningham to Felbrigg, where the lands are cold and backward, the five-course is followed, the land laying two years in seeds. Most of the farms in the hundreds of Tunstead and Happing (good loams) are upon the six-course. Upon one farm of 300 acres the shift is this:—

50 acres	Wheat
25} "	Ditto
25} "	Barley
50 "	Turnips
50 "	Barley
50 "	Hay
50 "	Two years' Olland.

In the Hundreds of Flegg the four and five-course are followed. The latter is wheat, turnips, barley (layer baulked), peas, wheat; sometimes peas follow the layer, and then wheat; by others, wheat, barley, turnips, barley, seeds. In the neighbourhood of Watton an intelligent farmer pursues both a four and five-course system. On that part which is heavy—wheat, vetches, fed off by sheep in the Spring; then broke up and sown with barley, clover; a part baulked of clover and sown with beans, and then wheat again. Upon another part, mixed soil—wheat, oats, turnips, barley, seeds; while upon another portion the four-course shift. In Marshland and the fen district—wheat, coleseed, and beans are the succession. Upon the best soils—wheat and beans, without any other intervening crop. Such is their fertility that this course has been in many instances continued upwards of 20 years.

In considering the propriety of the several courses, the experience of men of acknowledged skill must have its due weight. But it unfortunately happens that opinions are formed, not so much by a comparison as to how much more might be grown under another system with more enlarged means, as upon the money value of the two systems under the same tillage. It is now a well understood fact that certain plants cannot be cultivated on the same spot in close succession, while others may be grown in much earlier rotation by the application of proper manures; that some crops are more exhausting than others, because they are allowed to ripen their seed, while another class leave behind them a portion, either

of their leaves or their roots—for instance, beans, which assist materially in fertilizing the land for the succeeding crop of wheat. Before therefore it can be definitively pronounced which course of cropping is the most advantageous for a whole county, the different constituents required for the growth of different plants must be ascertained; what quantity of those constituents each particular crop takes from the soil, and what it gives back. Liebig says—“When substances which are incapable of being employed in the nutrition of a plant exist in the matter absorbed by its roots, they must be again returned to the soil. Such excrements might be serviceable, and even indispensable, to the existence of several other plants. But substances that are formed in a vegetable organism during the process of nutrition, which are produced in consequence of the formation of woody fibre, starch, albumen, gum, acids, &c. cannot again serve in any other plants to form the same constituents of vegetables.” To obtain information so requisite, recourse must be had to chemical analysis. Hitherto attention has been almost exclusively devoted to practical and mechanical improvements in husbandry, and it will probably be admitted that the art of culture as at present practised by those acknowledged to be the most skilful farmers in Norfolk, is not to be carried to a much higher degree of excellence. The increased means of acquiring and diffusing information, and with it a general desire for knowledge, is spreading among the cultivators of the soil in the same proportion as it has already done among the manufacturing classes. Science

and practice must go hand in hand ; the chemist and agriculturist must render mutual assistance, for by such an union alone can the production of food be increased in any degree commensurate with the demands of the population ; nor without it will agriculture be hereafter made a profitable employment for capital and skill, compared with commercial or manufacturing pursuits.

The growth of plants, their food, and from whence and how they derive it, are well known to the chemist, and therefore until the composition of soils are equally well understood by the farmer, it is almost impossible for him, however skilled in the practice, to be able to determine what manure is best adapted to restore to the soil that nourishment the next crop shall demand.

Quantity as well as quality is also material. Larger proportions of manure are now used, perhaps more than is necessary for many crops, quantity rather than quality being too often considered ; and the knowledge of the means of regulating quantity by quality is the more important, because the decay of the manure, upon which fertility depends, has reference to the composition of the soil, and on its being more or less pervious to the action of the atmosphere. In calcareous soils, decomposition is more rapid than on strong close soils, and therefore it is that on such lands it is found more advantageous to manure the clovers immediately after the hay is off, in order that the action of the air may assist decomposition before the manure is ploughed in. Chemistry therefore will add this great desideratum in the economy of cultivation ; it will assist

in determining exactly how much of any certain manure is required, and thus while a saving will be effected in the consumption and outlay, the farmer will be enabled to cultivate a larger space of land at a comparatively less expense. The application of scientific principles, as demonstrated in the draught of the plough and other implements, has been one of the greatest aids to the present improved system of culture; it is therefore but a just inference that the same application of the right principles of the Chemistry of Agriculture, will have similar results on the Rotation of Crops.

What is in progress, and what may be expected from the aid of chemistry, is included in the following summary, extracted from Liebig's Chemical Letters.

“ When we have exactly ascertained the quantity of ashes left after the combustion of cultivated plants which have grown upon all varieties of soil, and have attained correct analyses of these ashes, we shall learn with certainty the constituent elements of the plants—which are constant, and which are changeable—and we shall arrive at an exact knowledge of the sum of all the ingredients we withdraw from the soil in the different crops.

“ With this knowledge the farmer will be able to keep an exact record of the produce of his fields in harvest, like the account book of a well-regulated manufactory, and then by a simple calculation he can determine precisely the substances he must apply to each field, and the quantity of these, in order to restore their fertility.

“ He will be able to express in pounds weight how much of this or that element he must give to the soil, in

order to augment its fertility for any given kind of plants. These researches and experiments are the great desideratum of the present time.

"To the united efforts of all the chemists of all countries we may confidently look for a solution of these great questions, and by the aid of enlightened Agriculturists, we shall arrive at a rational system of Gardening, Horticulture, and Agriculture, applicable to every country and all kinds of soil, and which will be based upon the immutable foundation of observed facts and philosophical induction."

The following is the Rotation of Cropping pursued on a Farm of between six and seven hundred acres during the last twenty-four years :—

COURSE OF TILLAGE.

N ^o	1820.	1821.	1822.	1823.	1824.	1825.	1826.	1827.
1	Wheat . . .	Turnips . . .	Barley . . .	North, Clover South, Trefoil Wheat . . .	Turnips . . .	Barley . . .	Barley . . .	South, Clover North, Trefoil 1
2	Turnips . . .	Barley . . .	South, Clover North, Trefoil	Turnips . . .	Barley . . .	North, Clover South, Trefoil	Wheat . . .	2
3	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Barley . . .	3
4	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .
5	Turnips . . .	Barley . . .	Trefoil . . .	East, Oats West, Wheat.	Turnips . . .	Barley . . .	East, Clover West, Trefoil	Wheat . . .
6	Barley . . .	West, Clover East, Trefoil.	Wheat . . .	Turnips . . .	Barley . . .	East, Clover West, Trefoil	Wheat . . .	Turnips . . .
7	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips and Beet . . .
8	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .
9	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .
10	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .
11	East, Clover West, Trefoil	Wheat . . .	Turnips . . .	Barley . . .	West, Clover East, Trefoil	Wheat . . .	Turnips . . .	Barley . . .
12	Clover . . .	Wheat . . .	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .
13	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .
14	Wheat . . .	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .
15	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	South, Oats North, Barley	Trefoil . . .	Wheat . . .
16	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Wheat . . .	Clover . . .	Turnips . . .

OF NORFOLK.

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COURSE OF TILLAGE.

N ^o	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.	N ^o
1	Wheat . . .	Turnips . . .	Barley . . .	North, Clover South, Trefoil	Wheat . . .	Turnips . . .	Barley . . .	South, Clover North, Trefoil	1
2	Turnips . . .	Barley . . .	South, Clover North, Trefoil	Wheat . . .	Turnips . . .	Barley . . .	North, Clover South, Trefoil	Wheat . . .	2
3	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	3
4	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	4
5	Turnips . . .	Barley . . .	West, Clover East, Trefoil.	Wheat . . .	Turnips . . .	Barley . . .	East, Clover West, Trefoil.	Wheat . . .	5
6	Barley . . .	West, Clover East, Trefoil.	Wheat . . .	Turnips . . .	Barley . . .	East, Clover West, Trefoil.	Wheat . . .	Turnips . . .	6
7	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	7
8	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	8
9	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	9
10	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	10
11	East, Clover West, Trefoil	Wheat . . .	Turnips . . .	Barley . . .	West, Clover East, Trefoil.	Wheat . . .	Turnips . . .	Barley . . .	11
12	Clover . . .	Wheat . . .	Beet and Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Beet and Turnips . . .	Barley . . .	12
13	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	13
14	Wheat . . .	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Beet and Turnips . . .	Barley . . .	Clover . . .	14
15	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	East, Beet West, Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	15
16	Barley . . .	Trefoil . . .	Wheat . . .	Beet and Turnips . . .	Barley . . .	Glover . . .	Wheat . . .	Beet and Turnips . . .	16

AGRICULTURE

COURSE OF TILLAGE.

N	1896.	1897.	1898.	1899.	1840.	1841.	1842.	1843.
1	Wheat . . .	Turnips . . .	Barley . . .	North, Clover South, Trefoil Wheat . . .	Turnips . . .	Barley . . .	Barley . . .	South, Clover North, Trefoil . . .
2	Turnips . . .	Barley . . .	South, Clover North, Trefoil . . .	Turnips . . .	Barley . . .	North, Clover South, Trefoil . . .	Wheat . . .	2
3	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Barley . . .	3
4	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .
5	Turnips . . .	Barley . . .	West, Clover East, Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	West, Trefoil East, Clover . . .	Wheat . . .
6	Barley . . .	West, Clover East, Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	East, Clover West, Trefoil . . .	Wheat . . .	6
7	Barley . . .	Clover . . .	Wheat . . .	Beet . . .	South, Wheat North, Oats . . .	South, Tares North, Trefoil . . .	Wheat . . .	N.&S. Turnips East, Beet . . .
8	Trefoil . . .	Wheat . . .	East, Beet West, Turnips . . .	Barley . . .	Cow Grass . . .	Wheat . . .	Beet . . .	7
9	Wheat . . .	Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	Turnips . . .	Barley . . .	Barley . . .
10	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Barley . . .	Trefoil . . .
11	East, Clover West, Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	West, Clover East, Trefoil . . .	Wheat . . .	Turnips . . .	Wheat . . .
12	Clover . . .	Wheat . . .	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .
13	Wheat . . .	Beet . . .	Wheat . . .	Tares . . .	East, Wheat West, Barley . . .	Beet . . .	Barley . . .	Clover . . .
14	Wheat . . .	Turnips . . .	Oats . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Wheat . . .	Clover . . .
15	North, Beet South, Turnips . . .	Barley . . .	Clover . . .	Wheat . . .	South, Beet North, Turnips . . .	South, Oats North, Turnips . . .	South, Tares North, Trefoil . . .	Wheat . . .
16	Barley . . .	Trefoil . . .	Wheat . . .	Turnips . . .	Barley . . .	Cow Grass . . .	Wheat . . .	Turnips . . .

Thus reasoning from the law which has been ascertained relative to the food necessary for each and every crop, as well as that which is left for succeeding ones, there can scarcely be a doubt but that the four-course system, which provides for the cultivation of the leguminous in succession with the culmiferous crops, upon the majority of the soils of Norfolk, is best adapted for landlord, occupier, and consumer, provided these are cultivated under lease, with sufficient capital, skill, practical and scientific knowledge; inasmuch as while chemical science defines the exact kind and quantity of manure for each species of produce, the landlord will be more advantaged by the improvement of his estate, the labourer by a more constant employment, and the tenant by a better return for his skill and capital. By the six-course system an advantage is promised to farmers of less capital, and this cannot be exhibited in a more perspicuous manner than by the following statement, furnished by an Agriculturist, whose minute accuracy, long experience, and high character among the Yeomanry of Norfolk generally, would, were I permitted to use his name, at once vouch for the truth of his statement.

Comparative Account of the Proceeds of a Farm of 300
Acres of good Land, upon the Six-course and Four-
course system.

The expenditure in each case is considered equal.

THE SHIFTS WILL STAND THUS:—

SIX-COURSE.	FOUR-COURSE.
50 acres Wheat	75 acres Wheat
25 " " Do.	75 " Turnips
25 " } Barley	75 " Barley
50 " Turnips at £5 per acre	50 " Hay
50 " Barley [acre	25 " } Feed
50 " Hay	
50 " Two-year Olland	
Total 300 acres	Total 300 acres

SIX-COURSE SHIFT.

	cbs. b.	£. s. d
50 acres of Wheat, at 9 coombs per acre	450 0	
Seed at 3 bus. per acre	37 2	
	412 2	at 28s. 6d. = 577 10 0
25 acres after Wheat, at 8 coombs per acre	200 0	
Seed	18 2	
	181 2	at 27s. 0d. = 245 0 6
25 acres of Barley, at 11 coombs per acre	275 0	
Seed	25 0	
	250 0	at 15s. 0d. = 187 10 0
50 acres of Turnips, at £5 per acre		250 0 0
50 acres of Barley, at 11 coombs per acre	550 0	
Seed	50 0	
	500 0	at 15s. 0d. = 375 0 0
50 acres of Hay—1 ton per acre—at £3. 10s. 0d. per ton		212 10 0
50 acres of Olland Grass, at £2. 0s. 0d. per acre		100 0 0
		£1947 10 6

FOUR-COURSE SHIFT.

	cbs. b.	£. s. d.
75 acres of Wheat, at 8 cobs. 2 bush. per acre	637 2	
Seed at 3 bush. per acre	56 1	
	<u>581 1</u>	at 27s. 6d. = 799 4 6
75 acres of Barley, at 11 coombs per acre	825 0	
Seed	75 0	
	<u>750 0</u>	at 15s. 0d. = 562 10 0
75 acres of Turnips, at £4 per acre		300 0 0
50 acres of Hay—1½ ton per acre—at £3. 10s. 0d. per ton		212 10 0
25 acres of Feed, at £2. 10s. per acre		62 10 0
		<u>1936 14 6</u>
	£. s. d.	
Extra Expense of Manure for 25 acres of Turnips and Tillage, Seed, &c.	100 0 0	
25 acres of Clover Seed, at 11s. per acre . . . . .	.13 15 0	
	<u>£113 15 0</u>	— 113 15 0
		<u>£1822 19 6</u>

The arguments in favour of the Six-course are, that the growth of corn is as great as it would be upon a four-course system, the land in a fresher state for the root crop, and the turnips which follow two white straw crops superior than when grown after one, while the barley which succeeds is invariably better, both in quality and quantity, and the expenditure in labour is considerably less. The continuance in this system would appear to be the result of experience, since it is that which was pursued in this district during the most prosperous time of agriculture; and its success is perhaps further proved by the wealth which the occupiers, as well as those who farm their own properties, are known to possess. In every kind of agricultural produce, both as to quality and amount, this soil is exceeded by no part of Norfolk.

GENERAL CULTURE.

THE TURNIP.

THE prosperity of the Norfolk Farmer depends principally upon his successful cultivation of THE TURNIP, and consequently upon no one crop is so large an outlay made, either in manure or labour, or so much care and attention bestowed. The necessity not only for a clean but a fine tilth is established, and the best mode of obtaining it, both upon mixed and light soils, is so well known as almost to preclude the necessity of a minute description; at the same time it must not be entirely overlooked. The mode and time of preparing the land for the reception of the seed, depends upon the state of the wheat stubble. If the land be not clean, it is skeleton ploughed immediately after the harvest, should the weather permit; it is then harrowed and scarified until all the couch grass and weeds are brought to the surface and separated from the mould, when they are raked up and carted off the land. By some farmers these are mixed with lime to assist their decomposition;

by others, they are laid at the bottom of the cattle yards. Should the stubble be clean, the land is ploughed in the autumn, as deep as the soil will allow, care being taken to lay it light, to raise a small quantity of new soil, and thus gradually to add to the general depth of the cultivated surface. The land is then left to the operation of the elements during the winter. In March and April it is ploughed twice, in some instances across the former ploughing; in others, in a parallel direction, a similar depth being maintained. Scarifying and rolling follow, their frequency being regulated by the state of the land until it is ready for the seed earth. By some farmers the land is laid in two-furrow ridges, the soil, it is thought, becoming more mellow and friable by such practice, particularly on good land. Light lands are ploughed as little as possible, because experience has proved that the less weak soils are exposed to the action of the atmosphere in dry weather, the less is the exhaustion of their producing powers. Upon the fine loams in the North-eastern part of Norfolk it is usual among many of the most practical farmers to allow the land to lay late in the spring before ploughing, the soil being thus found more kind for the plant, although skeleton ploughing and scarifying in the autumn when foul, is the quickest and surest system of cleaning it. Different opinions exist in various parts of the county as to the relative number of ploughings and harrowings; but in this case, as in all others, it is impossible to lay down rules to which exceptions will not occur. The precept and practice of men of admitted experience and intelligence

on different soils is the best general guide. The usual time for sowing is from the beginning of May until the middle of June, but when an earlier maturity is required for feeding, it sometimes takes place in the latter end of April. The quantity of farm-yard dung is regulated by the amount and sort of artificial manure to be added. The following are the relative quantities most generally applied;—

From 12 to 13 and from 15 to 20 loads of farm-yard manure.

“ 8 to 10 of ditto with one-fourth or one-third of a ton of rape-cake.

The same with 4 cwt. of rape-cake and 4 cwt. of bone dust.

From 12 to 15 bus. of bone dust and rape cake in equal parts.

“ 12 to 15 bus. of bone dust.

“ 5 cwt to 7 cwt. of rape cake.

“ $\frac{1}{2}$ ton of carbon.

“ 1 to 200 bus. of muscles.

3 Coombs of malt cumbs per acre.

Sowing both on the ridge and the flat is sometimes pursued, in equal proportions, on the same occupation. Upon the light chalky soils the former is thought to be best for drawing, the latter where the turnips are to be fed with sheep. For the ridge system the land is laid up by a double breast plough, into whose furrows farm-yard muck is spread as equally as possible; the ridges then split upon the manure, when a light roll is passed over them, and if no artificial manure be used, the seed is drilled in at the rate of from 2 to 4 and 3 to 6 pints per acre, 24 and 27 inches being the distance. If either cake or bone dust be added, it is drilled in at the same time with the manure by Holmes' seed and manure drill, which is in general use in this county. When the seed

is drilled on the flat, the manure is spread over the surface and ploughed in fleet; after laying some time, the land is again ploughed deep, then rolled, and the seed drilled in at the width of 18 inches, the distance generally preferred, as the turnips obtain a better quality. In drilling, care is taken not to deposit the seed upon the rape cake, as it is a well understood fact, that the active fermentation of the cake will destroy the germ of the seed. When therefore it is drilled by itself, a fork is either fixed to the drill between the two coulters, or the one is made to drill deeper than the other, by which means the same object is attained. This practice, which has been long followed in this county (Mr. Coke having commenced it at the end of the last century), has been borne out by the science of the present age. The author of the *Essay on the use of Rape Dust*, in the 4th vol. of the Society's Reports, supports the system with unanswerable arguments.

An intelligent farmer, who occupied for many years a large farm of sand upon chalk, informs me he pursued the following plan, recommended by a gentleman's gardener, with unvaried success:—Previous to drilling, he sowed the bone dust broadcast and ploughed it in. In the month of September the plants invariably made a greater progress under this system than when the bone dust and rape cake were drilled in with the seed. This he attributes to the fact, that when the cake and bone dust are drilled together under the seed, the plant obtains more nourishment than it requires during its early growth, and in September, when the bones are required, the plants

begin to flag. When the bones were sown broadcast, the plants received the nourishment at the time most necessary, and invariably attained greater weight than they did under the former system.* Another farmer says, on kind turnip land the manure being broadcast, is not objectionable, as the plants get the manure when they most want it. If too much nourishment be put under the drill, it forces too much top instead of bulb, and the plants become necky; these never attain much size. But turnips drilled on unkind land require a little exciting manure in the early stage of their growth to force the plants away from the fly, and forward them for hoeing.

* This experience is certainly in direct opposition to Mr. Harman's opinion in the treatise to which we have before referred. He says, "the gain in the quantity of produce from an application of rape dust in the drill system is thus explained:—We know that the plant in its infancy feeds upon the matter in the seed. But after it has developed certain fibres, it begins to take up nourishment from the soil, while the green leaf or shoot which it has sent upwards, extracts carbonic acid from the air. We know also that if its fibres find no food near, they increase in number and length, and spread over a large surface. Thus we find that plants growing in very poor soils have an immense number of fibrous roots, and a poor stunted stem. The reason is, that the plant has exhausted its vigour in its efforts to maintain life; for these numerous roots have been formed at the expense of the matters which ought to have assisted the growth of the stem. By placing, therefore, the manure under the seed, the plant will have no necessity to exhaust itself by such fibrous extension, and as decomposition will be going on at the time when the plant is rearing its stem and putting out the green leaf, it will be well supplied with liquid and gaseous food at the most critical period, and consequently will be able to develope a stouter stem and leaf, and in less time than if the manure was farther distant or more diffused. Indeed it is a matter beyond question, that the sooner the plant escapes from that state of transition in which it cannot be said whether it derives its food from the seed, the soil, or the atmosphere (the state in which it is commonly said to be 'spaining'), the sooner its organs for extracting its food from the air and the soil are developed, the more vigorous will be their growth, and the more efficient their use in the process of vegetation."—Vol. 4, p. 186.—R. A. S. Reports.

There is a decided objection to turnips being drilled on the Northumberland ridge on wet land, when they should be sown on small ridges not exceeding three yards wide. At this width the horses which draw the harrows, will walk in the furrows, and avoid causing the tenacity their treading would occasion. This is, presuming the land has been under-drained.

As soon as the plant is sufficiently above the soil to prevent its being covered by the operation, the horse-hoe is used both on the ridge and on the flat work; the plants are then hand-hoed across the drills, leaving small bunches about nine inches apart; these are subsequently "singled" by children. Horse-hoeing again succeeds, followed by hand-hoeing by men, who take care to scour the earth well round the plants, in order to destroy the annuals. Horse-hoeing is resorted to as often as possible or convenient, until the bulbs become too large for the operation. On some farms a small board is fixed on the plough flat, and drawn down the ridges, in order to slightly mould up the plants.

There are several modes in use for securing the turnip crop; one is by placing the roots in furrows, with their tops and tails on, and in such a manner that they touch the bottom of the furrow, moulding them up with the plough; another is by setting them on end in a large mass upon the ground; a third, by putting them into long banks, about six or seven feet wide at the bottom, and thatching them with straw or mould; while a fourth plan is to heap them in hills of an hundred bushels in various parts of the field, having been first topped, to cover them with straw

and mould, after allowing a few days for the heating to pass off, but always taking care to leave an orifice at the top for ventilation. This is the most general practice.

But in order completely to carry out what appears to be the object of the Society, it will be better to give an exact description of the systems pursued in the cultivation of this important branch of rural economy, by occupiers of acknowledged practical skill, even at the hazard of too great prolixity.

MR. A.'S SYSTEM.

The farm is on the four years' course, but it being in high condition and clean state of tillage, one fourth of the wheat stubble is sown with peas, which is repeated only once in sixteen years, one-fifth of the stubble coming for turnips is sown with rye for spring feeding and folded off with sheep. This is afterwards ploughed as deep as the land will bear, harrowed, and rolled as often as required. In a month it is made into Northumberland ridges, twenty-seven inches apart, dunged with twelve or thirteen loads per acre, and drilled with Swedes from four to six pints per acre, and finished in June. The remainder of the stubble is ploughed two furrow deep, but the last furrow without the breast. In the spring scarified as deep as ploughed, harrowed and rolled two or three times, drilled on the ridge at twenty-seven inches, and treated in the same way as the other. The weight of the crop averages from fifteen to twenty tons, and sometimes twenty-five tons per acre, but this is an exception.

MR. B.'S SYSTEM.

Immediately after harvest, should the weather be dry, such of the wheat stubbles as time and means will allow are skeleton ploughed, to enable the sun to destroy whatever twitch grass may be in the land, as well as to open it to the beneficial operation of the air. The land is next scarified by Blaikie's grubber, harrowed well with heavy harrows, in order that the roots of the grass may be brought to the surface, and again lightly. The grass is then raked off by women, the stubble and quicks all carried off and stacked up, to be laid at the bottom of the cattle yards in the winter. All annuals are at this period readily killed, because their vegetating powers are weak; it is therefore the best time for cleaning land.

The land being clean, about the latter end of October, after wheat sowing, it receives a ploughing from five to six inches deep, and is left thus rough from the plough for the operation of the air and frost through the winter. Should there have been any portion of the stubbles not skeleton ploughed in consequence of wet weather having set in, which in this county is often the case, it is ploughed over from five to six inches in depth, in November or December, in stretches of twenty yards wide, where it is left till March, when it is again ploughed the same depth in the same way. It is then scarified, well harrowed, first with heavy, then with light harrows, and the twitch grass and roots of weeds picked off at the cost of sixpence per acre. After barley

sowing in the beginning of April or May, it receives another deep ploughing, across the former stetches of the same width, then rolled with a light horse roll, and harrowed with light harrows. In this state the land remains till within a fortnight of the time of sowing, with this exception, that if any annuals appear, it is harrowed with light harrows to destroy their growth. Another good earth by ploughing is then given it the same way back, and the land is thus made tolerably level. This is preferred, because if the land which has been once cross-ploughed be cross-ploughed the reverse way to which it was cross-ploughed before, those parts where the second ploughing crossed the first, will be left with less soil than the rest of the field, and the turnips, not finding the same depth, will not be so good as the remainder of the crop. The land is then again harrowed and rolled, and the surface will by this time, with tolerably fair weather, have become in fine tilth. Two of Ransome's double-breasted ploughs then open the furrows, into which farm yard muck, in its fermenting state (the muck heaps having been turned a fortnight previously), is thrown off by a man from the cart with a three-pronged fork into the furrows, assisted by the team-man with a crome, six women, girls, or boys, as may be, following, and shaking the manure evenly along the furrows. Two other double-breasted ploughs follow close, and cover the muck as soon as it is in the furrows, to prevent the least evaporation. A Northumberland seed and cake drill follows, and deposits as near to the manure as possible from ten to fourteen bushels of bone

dust and rape cake mixed, the quantity being regulated by the state of the land. In order to prevent the turnip or mangel wurzel seed coming into immediate contact with the rape cake, there is a fork placed in this drill between the cake coulter and the seed coulter, which slightly covers up the cake and bone dust before the coulter deposits the seed. Before the seed is sown, it is the common practice to roll the ridges lightly, in order to enable the drill to deposit the seed with greater precision than the fine edge left by the plough would allow, but on this farm, in order that the land may lie as lightly as possible, a "mould board" precedes the manure coulters, and sweeps off the top of the ridge. The seed coulter follows, and buries the seed as shallow as possible at the rate of four pints per acre for Swedes. Behind this a light chain attached to the drill, and hanging loosely, covers over the seed by sweeping over the ridge. The drill is drawn by one horse, which walks in the furrow, and sowing two ridges at a time. An acre an hour can thus be completed easily. The land is thus left perfectly light, and of course the first rain makes the seed germinate quickly, while the cake forces the plant rapidly beyond any material injury from the fly, and the bone dust and manure sustain it in its later growth.

As soon as the turnip plant has obtained its rough leaf, and is sufficiently strong to bear a slight disturbance, the land is horse-hoed with a one-horse hoe, taking two drills at a time; and the reason of this is obvious: it loosens the earth and brings the air more in

contact with the roots, and the formation of carbonic acid is favoured. As soon as the young plants are ready to hoe by hand, which for the reason already given will be in a very few days, they are cut into bunches with a nine inch hoe, at the rate of two shillings per acre; subsequently they are singled out by children at one and sixpence per acre, who at this rate will earn from sixpence to eightpence per day. They are again horse-hoed when they have arrived at a more forward state; afterwards hoed and "scoured," that is, each man takes a single drill and draws the earth around every plant, the effect of which is that the root is preserved more effectually from heat, and the moisture does not exude so rapidly. Nature points out that a greater quantity of moisture is more important to the growth of the Swede turnip, which is exemplified not only by the formation of the stalk, but from the leaf retaining the moisture of the night, or of rain, much longer than its relation, the white; and that it is also the first to catch the dews of the evening; besides it will always be found that in proportion as the circle of the roots extend, so will the leaves, which thus partially exclude excessive drought. But to proceed to the mode of cultivation. This "scouring" costs three shillings an acre, which can be done in one day. The crop is again horse-hoed with a triangular horse-hoe, and repeated as often as time will allow.

In CONSUMING the crop, two-thirds are sliced and eaten by the sheep in troughs on the land, while one-third is carried into the yards for the cattle. With the

turnips each sheep is allowed half a pound weight of linseed cake a day; while the cattle in the yards have from seven to ten pounds weight. By this, which may be probably thought large allowance of cake, it is considered that a double quantity of both sheep and beasts can be grazed, five pounds of cake being equal to a bushel of turnips. Mr. B.'s consumption of cake from November to May has not been less than ten tons a week.

For MANGEL WURZEL, the same system of preparation and culture is pursued, with this exception, that seven pounds per acre of seed is drilled. On two occasions only in twenty-two years has this crop failed, and then the seed had been dibbled. The probable reason for this failure was, the seed was planted too deep to feel the effects of the sun, for the mangel being sown somewhat earlier than the Swedes, might have been deposited beyond the heat necessary for the vivification of its vital principle remained inactive, and finally decayed. If on the contrary, according to Dr. Lindley, the seed is either deposited in moist earth, or is moist itself from previous absorption, and is placed at such a depth, that while it is screened from the action of the night, the earth attains sufficient heat, the integument swells, "oxygen is absorbed, carbonic acid expelled, and the vital action of the embryo commences." How far this theory accounts for the failure of the mangel in these two years, must be left to the judgment of the reader.*

* The spring of this year, 1844, was remarkable for a drought of thirteen weeks. In this county one very slight rain occurred during this period, but it was not sufficient to confer any material benefit, besides being exceed-

Again to return from comment to fact.

In the last week in October the mangel is pulled, the tops wrung off, loaded and stored in the usual way in banks; for this the price is five shillings an acre; for placing the turnips four shillings an acre is paid, and the same price is paid for topping, tailing, and loading them for cattle. The sheep cost for tending, a shilling a score per week, for which the turnips are sliced, the sheep nets moved, &c. The tops of the turnips are thrown on stubbles, and consumed by the store beasts. After the turnips are placed, the land is looked over by women and children, and the twitch grass, if any, picked off, at from fourpence to sixpence an acre, thus preserving throughout the same attention to one of the greatest points, a clean tilth.

MR. C.'S SYSTEM.

On the tenacious land that has been under-drained, a subsoil plough is run up all the furrows, to the depth of twelve or sixteen inches, and as the land is ploughed in small ridges, (three yards wide) the surface water percolates to the under drains, and the land becomes

ingly partial. In consequence, sowing turnips was delayed; where not delayed, when they came up, they either were taken off by the fly, or the seed did not germinate. Mr. Blomfield, of Warham, who is the father of the Holkham tenantry, and whose practical experience is perhaps longer than almost any other agriculturist in the county, determined to try a different mode of cultivation. Instead of splitting the ridges upon the manure, and then sowing, he drilled the seed upon the manure, and then split the ridge, lightly covering the seed. The consequence is that at the time this note is written (July 13th, 1844) he has an almost perfect plant of mangel wurzel on his farm, when every other farmer in Norfolk has more or less failed.

much sooner dry for the spring work of harrowing. The wheat stubbles are afterwards ploughed deep in the months of November and December, the breast of the plough used being rather short, in order that the land may not be pressed down so close as flag land when ploughed for wheat sowing. By this system the soil lies light, and the frost of winter produces a degree of fine pulverization that cannot be otherwise obtained on lands of this quality. This is fully demonstrated by harrowing and scarifying in the spring, not a single clod being visible. If the land is clean it will not require any other ploughing until the sowing earth, at the end of May or beginning of June, but it should be occasionally stirred with a strong scarifier. If the land be not quite clean, plough it in the spring to the same depth as the previous ploughing, and clean it by the occasional use of the scarifier, harrow, and roll, until required for sowing. This system has been adopted on various descriptions of soils, and experience has proved its value. Supposing the land to have been manured for the preceding wheat crop, it requires less for turnips, in some cases a fourth of a ton of rape dust drilled under the seed, producing a first-rate crop, but this would depend both upon a propitious season and a general high state of tilth. Upon unkind strong land from six to eight or ten loads of farm yard manure of all kinds in the first stage of fermentation are laid on with rape cake, or some other exciting manure, to bring the turnips forward to the hoe, by which means they are also materially preserved from the fly. In one case

last year, 1843, upon a strong loam six bushels of rape dust were used, mixed with six bushels of ashes saturated with liquid manure from the farm-yard, and these produced as fine and equal a crop of turnips as is often seen, and equal to any ever grown on the same farm, with from twelve bushels of rape dust per acre. Their superior excellence may, however, be accounted for thus: wood ashes are, generally speaking, powerful absorbents of ammonia; the ashes of beech wood in particular absorbing ninety times their volume, and the result of the combination used in the instance just referred to, was an increased quantity of ammonia, affording the plant greater nutriment, and causing a consequent increase of weight of produce. The land is drilled for early feeders on the flat on the light mixed soil, at twenty-four inches distance, in preference to the Northumberland system, because experience has proved that a greater weight can be grown. On the strong lands on the flat, also on stretches of three yards wide, because the land lies much drier, and is invariably found in better order for the barley crop. If strong land be put on the Northumberland plan, and then left flat, or nearly so by the horse-hoes, it will not carry off any large surplus quantity of water falling from the autumnal rains, which are most injurious to the turnip bulb. If the ridges be moulded up, the turnip crop is more endangered by drought, while the crop cannot be fed off by sheep with any probability of their well doing.

The same system of tillage is adopted for Mangel Wurzel, with this exception—that one-third or one-

fourth of the land is left undrilled, as may be required, but rolled down to keep out the drought. This part is afterwards sown with Swedes or white turnips, having been previously scarified, because an entire crop of mangel is of too scourging a nature for the barley crop, and by thus being enabled to feed this portion of the turnips with sheep, this evil is in a considerable degree remedied. As soon as the drills, both of mangel and Swedes, can be seen, the land is horse-hoed, and the sooner this can be done the better, because if the annual weeds are allowed to get firm hold, so tenacious are they of life, that a greater number of hoeings, and a consequent increase of expense is caused, which might be readily avoided. For this purpose no implement is so efficacious as the horse-hoe invented by Mr. Garrett, of the Leiston Works. The after treatment is similar to the usual custom. About the middle part of September the early-sown white turnips are ready to be drawn; part of these are thrown on the stubbles for the cattle and cows, the rest consumed on the land by sheep. In the end of the month the beet is ready to secure, and as this proceeds, the tops are scattered over the surface, and sheep follow and feed off the tops and a portion of the Swedes grown with them. By the middle of November the earliest sown Swedes are pulled, topped, and tailed, and secured in round heaps—eight to an acre.

After laying a few days to prevent their sweating, which would produce a rapid decay, they are covered with straw and mould, a small bunch of the former protruding from the top to ventilate, and at the same time

exclude the frost. The tops and offal are eaten by a flock of ewes, lasting them about eight weeks.

This winter 320 ewes were feeding off the tops and offal of Swedes and beet, and I since understand that the sheep were maintained entirely by them for fifty-eight days.

The Aberdeen turnip, of which a small quantity is sown for late feeding, is left standing. The advantage of securing the turnips in heaps is that they can be more conveniently obtained for cutting and trough feeding, the now almost universal practice, because if it should happen that any part of the land should be too wet for the sheep, they can be removed without the necessity of carting turnips after them to a dryer spot.

The following account will show the relative expense of each system. The cost of tillage is not perhaps taken at the very highest price, but this is not of any importance, as the relative effect upon each would be the same. The farm-yard manure is calculated to be of the very best kind:—

COST OF A.'S SYSTEM.—Light Soil, on Chalk.
No. 1 System.—Expense per acre.

	£. s. d.
Ploughed for Rye	0 5 0
Harrowed	0 0 9
Rolled	0 0 3
Drilled	0 0 6
Harrowed	0 0 6
Seeds	<u>0 14 0</u>
Cost of tillage for Rye	1 1 0

The value of the feed depends on the locality and requirements for the farm.

No. 2. Same land after the Rye is off—

	£. s. d.
Ploughed deep	0 6 0
Harrowed and rolled	0 2 0
Ditto, repeated	0 2 0
Ridging	0 6 0
Carting dung and spreading twelve loads per acre	0 10 6
Drilling	0 0 6
	<hr/>
Cost of tillage	1 7 0
Twelve loads of manure	3 0 0
	<hr/>
	4 7 0
Hoeing and securing the crop	0 16 6
	<hr/>
	5 3 6

No. 3.—Remainder of land for Turnips.

	£. s. d.
Ploughing two furrow deep, the last furrow not turned	0 10 0
Scarified	0 1 6
Harrowed, rolled, &c.	0 5 0
Drilled	0 0 6
Carting, spreading, &c.	0 10 6
	<hr/>
Cost of tillage	1 7 6
Twelve loads of manure	3 0 0
	<hr/>
	4 7 6
Hoeing and securing	0 16 6
	<hr/>
	5 4 0

COST OF B.'S SYSTEM.—Mixed Soil, on Chalk.

No. 1 System.—Expense per acre.

	£. s. d.
Skeleton ploughing	0 3 0
Scarified twice	0 1 6
Harrowed twice	0 1 6
Rolled	0 0 3
Rubbish picked	0 0 6
	<hr/>
Cost of tillage	0 6 9

No. 2.

		£. s. d.
October.	Ploughed deep	0 6 0
March.	Ditto	0 6 0
	Scarified	0 1 6
	Two harrowings	0 1 3
	Rolled	0 0 6
	Rubbish picked	0 0 6
April.	Ploughed deep, across	0 6 0
	Rolled	0 0 3
	Harrowed	0 0 6
May.	Ditto	0 0 6
	Ploughed deep, across	0 6 0
	Harrowed	0 0 6
	Rolled	0 0 3
	Marked for ridging	0 0 3
	Ploughed twice, double-breast	0 6 0
	Drilled	0 0 6
	Cost of tillage	1 16 6

	£. s. d.
Cost of tillage of No. 1 system	0 6 9
" No. 2 system, except the March tillage	1 6 3
	1 13 0
Six bushels of bones	0 15 0
" rape	0 12 0
Eight loads of muck	2 0 0
Carting and spreading	0 7 0
	5 7 0
Hoeing and securing	0 16 6
	6 3 6

	£. s. d.
Cost of tillage of No. 2 system	1 16 6
Manure as above	3 7 0
Carting and spreading	0 7 0
	5 10 6
Hoeing and securing	0 16 6
	6 7 0

COST OF C.'S SYSTEMS.—Mixed Soil.

Expense of one Acre.

		£.	s.	d.
November.	Ploughed deep	0	6	0
February or March.	Harrows }	0	0	9
April or May.	Ploughed deep	0	6	0
	Harrows	0	0	9
	Rolled	0	0	3
	Harrows	0	0	6
	Rubbish picked	0	1	0
May.	Scarified (spikes)	0	1	5
	Harrows	0	0	9
	Rolled	0	0	3
	Harrows	0	0	9
	Rubbish picked	0	0	6
May.	Scarified (broad shares)	0	1	7
	Harrows	0	0	9
	Rolled	0	0	3
	Harrows	0	0	6
	Rubbish picked	0	0	6
June.	Seed earth	0	3	0
	Harrows	0	0	6
	Drilled	0	0	6
		1	6	6
	Horse-hoed three times	0	1	6
	Hand-hoeing and picking	0	7	6
	Expense of clamping	0	8	0
		2	3	6
	If one-third of a ton of cake	1	13	6
		3	17	0
	Brought down	2	3	6
	If one-fourth of a ton of cake	1	5	0
		3	8	6
	Brought down	2	3	6
	Eight loads of muck and one-fifth of a ton of cake, carting and spreading	2	17	6
		5	1	0

Strong or tenacious Land.—Expense of one Acre.

		£. s. d.
November.	Ploughed deep	0 7 6
March.	Harrowed. . . .	0 0 9
Ditto or April.	Scarified (spikes)	0 1 5
	Harrowed. . . .	0 0 9
	Rolled	0 0 3
	Harrowed. . . .	0 0 9
	Picked	0 0 9
May.	Scarified (shares)	0 1 7
	Harrowed	0 0 9
	Rolled	0 0 3
	Harrowed	0 0 9
	Picked	0 0 6
June.	Seed earth	0 3 0
	Harrowed. . . .	0 0 6
	Drilled	0 0 6
		<hr/>
		1 0 0
	Horse-hoed three times	0 1 6
	Hand-hoeing and picking	0 7 0
	Expense of clamping	0 8 0
		<hr/>
		1 16 6
	Manure—one-third of a ton of cake	1 13 6
		<hr/>
		3 10 0
		<hr/>
	Brought down	1 16 6
	If manured with muck, twelve loads per acre	3 10 6
		<hr/>
		5 7 0
		<hr/>

I have already observed that the advance of the greatest importance which has taken place in the southern part of this county for a considerable period, is the success which the culture of the turnip has attained upon

occupations whose tenures are principally only from year to year, and consequently undertaken at a greater risk to the occupier. This improvement has been accomplished through the agency of thorough draining; by a better knowledge of the chemical effect of air upon soil; by the instrumentality of better implements, and by intellectual and practical energy.

The farms in the neighbourhood of Harleston and Pulham, and that district, are small in comparison with those on the light district, but are occupied by men who of late years have taken a decided lead in agricultural progression.

MR. D.'S SYSTEM.

When Mr. D. took his farm it was not considered kind for the production of the root, but conceiving a naked fallow to be attended with expenses that could not be met (a two years' rent, tithe, and other local taxes being chargeable on the barley crop succeeding a naked fallow) he determined to attempt the four-course system. Having obtained a relaxation of the compulsory clauses of his lease, he commenced draining with tiles at thirty-six inches deep, each drain "serving itself." Having thus laid the foundation, directly after the harvest he "tears up" the land with Biddell's scarifier, first using the sharp points. He then adds the broad shares and passes them through a second time, and after this operation the land is left in a perfectly hollow state. The first fine searching rain pulverizes the soil and leaves it in a state nearly corresponding with

that of light land. A light harrowing is then given to level the surface; it is drawn into ridges of twenty-seven inches wide by Ransome's shifting breast plough, when it exhibits the appearance of the finest garden culture. The land lays in this state until spring, when the ridges are split and mucked with twenty cart loads of twenty-four bushels each of long unfermented manure per acre, the ridges are again split and the manure covered. The light roll follows, the horses at all times walking in the furrows. When intended for mangel wurzel, the seed is dibbled by preference, as he can command a more uniform plant, independently of a saving of four or five pounds of seed; drilling requiring eight pounds, and dibbling four pounds at sixteen inches distance. When the plants are up, they are horse-hoed and singled; the horse-hoeing being repeated as often as desirable in adherence to the maxim —“The more you hoe, the more you grow.”

For turnips the system is the same, having invariably found that the objection against the cultivation of this root on adhesive soils, that its growth is so slow it rarely escapes the ravages of the fly, is by this mode of culture obviated, the main reason being that the land is ready in sufficient time for the turnips to be sown before the season of the fly. When it does appear the plant is in so forward a condition as to sustain but little injury. By the old system of ploughing five times, the farmer is constantly delayed till so late in the season, that rain too often falls on one of the fresh earths, and the effect of this invariably is to annihilate all the previous tillage

and leave the land in a worse state than it was before ploughing.

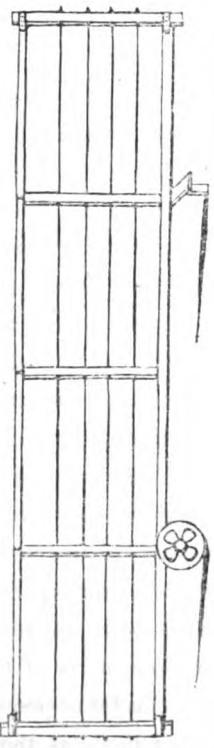
The following Statement shows the Cost of Cultivation
for the Turnip Crop on this Farm.

	£. s. d.
First breaking of land by Biddell's scarifier	0 2 6
Second ditto	0 2 0
Ridging up with Northumberland plough	0 3 6
Filling the manure per acre	0 1 6
Carting the manure per acre	0 13 6
Spreading per acre	0 2 0
Splitting off ridges to cover manure	0 3 6
Seed per acre	0 4 0
Drilling the seed per acre	0 1 0
First horse-hoeing per acre	0 1 6
Cutting out and singling plants per acre	0 2 6
Second horse-hoeing per acre	0 1 6
Hand-hoeing per acre	0 2 6
Third horse-hoeing per acre	0 1 6
Weeding, if required, per acre	0 1 0
Fourth horse-hoeing, if required	0 1 6
One or two light rollings before and after de- positing the seed	0 1 6
	2 7 0
Manure (fifteen loads)	3 15 0
Securing	0 8 0
	6 10 0

This same occupier cultivates from ten to fifty acres by a three-pronged fork, the quantity being regulated by the labour market. In this operation the soil is turned completely over. A man can do about eight rods a day, for which he is paid $2\frac{1}{2}$ d. a rod. The land is left rough and light until the Spring, when the only tillage required is to level it down, which is done with rakes about three feet wide, the teeth five or six inches

long, and the handles ten feet, all except the teeth being of wood. The total cost is about 23s. 4d. per acre, and the advantages he considers consist in the exposure of a larger quantity of soil, producing a better tillage, and that clover stands with greater certainty ; in fact, he says—"it never fails."

Having brought the turnip crop to its maturity, and secured it from frost, the mode in which it is consumed follows in natural succession. On all light and mixed lands, a proportion, regulated by the texture of the soil, is fed off by sheep ; if very light, two-thirds ; if mixed, one-third ; the remainder being consumed by the cattle in yards. Of late years the introduction of Gardiner's turnip cutter has effected an important alteration in the economy of consumption, by enabling the farmer at a slight expense beyond that of the machine, to carry a larger number of sheep and more profitably on the same space. Instead of allowing the sheep to feed from the land itself and with the mould adhering to the root, the turnips are now principally drawn, cut, and put into troughs, placed at various parts of the field, and moved daily in order to secure as far as possible an equal teathe. The great point in this mode is that the sheep unquestionably fatten quicker, are kept generally in a better state of health, and there is less probability of loss. The sheep are confined sometimes by hurdles, sometimes by netting, supported by stakes placed at regular distances, which plan has lately come very much into use; some-



times in large folds on wheels. These are hooked together and dragged by a horse where required; others again are made with wooden frames and ledges of an half-inch iron wire, each 21 feet long, by 3 feet 6 inches deep.

The netting costs about 4d. per yard; the common hurdles from 8s. 6d. to 10s. per dozen; and the large hurdles, if made on the farm, about 26s. to 28s. each; those entirely of iron cost 18s. each. At the commencement of the season, the white turnips are thrown to the store beasts on the stubbles; or if consumed in the yards, are sliced by boys, whose duty it is to keep the bins supplied, the offal being always cleared out whenever a fresh supply is required. A number of pigs are by this means fed at comparatively little expense.

On the good loams and heavy soils the turnips are all drawn for consumption by bullocks either on the stubble or in the yards.* Comparatively few sheep are grazed in these districts, as their soil is so fertile, it being thought that straw, rather than corn, would be the consequence were the lands highly teathed. Sheep are usually grazed on wheat stubbles, on the two-year Ollands, or on the layers with a small portion of cake or peas and cut hay, the proportion kept being four to six and eight score, on farms of from one to three hundred acres.

* When the North and North-east winds prevail, the crops at Somerton, Winterton, &c. on the lands inclining toward the ocean, invariably suffer from mildew, the turnips particularly. At Burnham, the same effect has been observed. On one side of the hill, sloping to the sea, the crop will be mildewed. On the other side, inclining in the contrary direction, it is not affected. For this fact the writer has the authority of residents of long standing and character.

The great enemies of the turnip are the fly, the black canker, and the wire-worm. For the first, the late Mr. Paul, of Starston, invented what was termed a fly-catcher, which being drawn over the surface caught a number of these insects. The contrivance was ingenious, and was exhibited at Holkham at one or two meetings, but it never came into general use. It is now generally admitted that the best remedy, if not the only one, is thick seeding and a fine state of tillage, and forcing the plant, by manure placed directly under it, into its second leaf, when it is considered to be beyond the reach of injury from this insect. Some farmers sow white turnips between the Swedes, as the fly prefers the former, and it undoubtedly has had the desired effect.

The canker has been a scourge to the turnip crop in many parts of this county. For this the remedies are various; feeding off by droves of ducks; drawing a line across the ridge, or by sowing powdered lime and rolling afterwards. Another mode is by fixing boughs in the horse-hoes and sweeping them off, and by drawing a board across the ridges, by which means they are jerked off the turnip upon the board.

For the wire-worm, one of the modes is by pressure, by Crosskill's clod-crusher. Last year one farmer of heavy land treated fifty acres of wheat in this manner. The result was, the wheat on this part was not infested; all the rest of the farm was affected by the insect. An occupier of a fine mixed soil near the marshes and broads, in the Eastern part of Norfolk, says—"My

land is much subject to the wire-worm. I find heavy rolling, treading with cattle, or indeed any pressure beneficial. Wherever my land is much carted over, the wire-worm never makes its appearance." For a light soil upon chalk, soda and saltpetre, at the rate of three-quarters of a hundred weight per acre, have been found one of the best preservatives by one farmer.

Having followed out the cultivation, production, and consumption of the turnip,

BARLEY

COMES next in rotation, and its excellence both in quality and quantity depends very much upon the preceding crop, in addition to a proper state of the land when the seed is deposited. Having but a short time in which to assimilate the various constituents required for its perfection, it becomes the more necessary that its growth should be unimpeded by delays arising either from dilatory or inattentive tillage. Complete pulverization on all soils is absolutely needful to successful production. This is obtained either by ploughing or scarifying the land as the sheep consume the turnips, in which state the soil remains until the Spring; or by laying it in two-furrow ridges, if the land be fed early, or is an adhesive soil. Opinions differ as to the depth of ploughing best for light soils. Some farmers are in favour of deep, carrying a small furrow to cover the teathe, and then a fleet ploughing afterwards; by this means the lower roots obtain the benefit of the manure and supply the plants with food

when drought renders those nearer the surface less capable of action. By others a single and fleet ploughing is advocated. The usual mode is this:—In the Spring the land is cultivated by scarifying, rolling and harrowing, by which time it has attained almost a garden culture; it is then ploughed or scarified for the last time, and drilled at the rate of from $2\frac{1}{2}$ to 4 bushels per acre; harrowed lightly and rolled. The seeds are generally sown broadcast by a machine, when the land is kind directly after the barley, harrowed in lightly and rolled. As soon as the thistles and other weeds shew themselves sufficiently, they are cut down with a weeding hook or drawn out, which process will cost from sixpence to a shilling an acre. When the ear “knuckles down” the crop is ripe for the scythe.

Upon the strong clay lands the practice is to plough only once—as soon as the turnips are off—then to scarify in the Spring just before sowing, when the land will be found in a fine state of tilth from the effect of the weather. Upon the comparative merits of the drill and broadcast system, as regards barley sowing, there yet exists a difference of opinion, many excellent farmers adhering to the latter, insisting that they obtain both a better quality and a larger cast. In sowing broadcast two pecks more are required than in drilling; but in either case a very watchful eye must be kept upon the weather. If rain should fall in any quantity immediately after sowing, its effects will soon make themselves evident upon the crop, and the consequence almost invariably is, that but a moderate one is

obtained. When the barley is sown very early, it is better that the sowing of the small seeds should be delayed, as, if only a slight frost should occur, it will materially injure the layer. Some farmers never sow until the barley is up, in order that the coming layer may not be so forward at harvest as to run into the barley.

After the barley is up, on mixed soil, drill the seeds broadcast, and harrow them in with a lever harrow with inverted teeth, and roll afterwards.

The following are three systems adopted in the cultivation for barley :—

When the turnips are fed off, the land is skeleton ploughed. It is then allowed to lie and take the frost. After this it is scarified across the skeleton ploughing and harrowed. In February or March, as the weather may be propitious, it receives a clean earth ploughing about four inches deep, then harrowed and drilled, and harrowed in. The small seed sower follows the seed sowing broadcast, and harrowed in with light harrows, and rolled with a light one-horse roll. In June the barley is weeded by women or children at sixpence per acre.

As soon as the beet tops and turnips are fed or taken off the land, Biddell's scarifier with the spikes is drawn across and up the land to the depth of three inches; this leaves the land in a beautiful state for harrowing, as it breaks up the land, made tough by the sheep treading it, well mixes the manure dropped by the sheep, and in ploughing it for barley to the depth of three and half

to four inches, the drill deposits the seed in the midst of the pulverized soil and manure, which immediately receives the benefit without the annoyance of treading the land to break the clods. The grass seeds are sown on a fine tilth, and afterwards the land is rolled.

Another mode is this. The turnips are drilled on the Northumberland ridge; part are fed and part are drawn. The preparation for barley is by splitting the ridges two or three times with the double-breast plough, then scarify, harrow, and drill.

HAY.

PASSING by the operations of harvest, which will be separately described, the young layers are sometimes covered with short muck before Christmas, but always rolled down. Trefoil is generally fit to cut in the beginning of June, and this ought not to be delayed after it begins to lose its blossom, when the husk is formed, and before the seed is perfected ; for if sufficient attention be not paid to this particular, the hay will in all probability be bitter. Trefoil should not be turned or stirred until the day it is put upon the cock, which, if the weather be fine, should be the third or fourth day after cutting. It cannot be cocked too green, if dry, and should be got up as early as possible. Clover is not fit to cut until the end of June or beginning of July, and it is made in a similar manner, except that it will require more time to dry, from its greater succulency. Hardland hay is scattered about the fields, and made as quickly as may be heaped every night, so that it retains

its colour. It is then stacked—generally in the square—while the clover and trefoil are made into long stacks. All provident farmers, in order to prevent any part of the hay from losing its quality, which that portion next the thatch is apt to do, fill up the roof with straw, and allow it to remain in that state to settle until the heat passes off, as any injury from the wet is prevented by straw.

The usual quantity of hay grown per acre is from one to one and half ton of trefoil, &c. and from one and half to two and half tons of clover; hardland from half to two tons per acre. The cost for cutting and making, &c. in an ordinary season, is from five to seven shillings an acre.

Cow-grass of late years has been introduced with great success where the land is sickened of clover. This should always be cut as soon as it comes into blossom, because if put off too late, the after-math is injured, and the hay deteriorated in value. It should also be sown thick, as the stem is much finer. But the wheat after this grass is rarely so good as after the other artificial grasses, from its being of a more exhausting nature, in consequence of its more solid stalk. The after-math is fed with sheep, and the flock folded upon it until ploughed up for wheat. And here it will not be inapplicable to remark, that the system of close feeding or “gnawing” which was formerly practised, is now nearly discontinued.

WHEAT.

THE middle of September is about the time to commence ploughing ollands for wheat, laying the flag as

flat as possible, and taking care that the grass edge be not seen, which a skim coulter (of these there are a great variety) will effect. A heavy roll is passed over the ridges, in order to give solidity to the flag, while others prefer the drill roll, which raises the earth for covering the seed. The land being thus prepared for the seed, the next consideration is its selection. Sorts must very much depend upon soil, climate, and situation, as well as the quantity sown per acre. A change from heavy to light soils, and the reverse, is generally desirable, often indeed necessary. The reason why new wheats are found to be so much more productive than the old stock, making a fair allowance for their naturally superior productiveness, depends very much upon the change of soil to which they have been subjected. A new wheat from the alluvial soils of Cambridgeshire would find perhaps more suitable elements in the good mixed silicious soils of West Norfolk, or the vegetable moulds and fine loams of the East. In selecting a new stock therefore, while its prolific qualities should not be put aside, its general character should be closely scrutinized; for all sorts degenerate after a short period, proclaiming plainly as nature always does speak, that they have exhausted those certain constituents in the soil which were necessary to their full perfection.

The following Experiments, on varieties of Wheat, will tend to elucidate the preceding observations:—

1835.

	cmbs. bus.	s.	d.	£.	s.	d.
Hickling .	6 0	per acre	18 0	...	5 8	0
White . .	5 3	...	20 0	...	5 15	0
				—		
In favour of Denny's White .				£0	7	0
				—		

1830.

	cmbs. bus.	s.	d.	£.	s.	d.
Hickling .	7 2	per acre	22 0	...	8 5	0
Common Red 7	0	...	24 0	...	8 8	0
				—		
In favour of Red				£0	3	0
				—		

1843.

	cmbs. bush.
Spalding .	9 3½
Perowne .	8 1
Rumburgh	9 1

} All sold at the same price.

The following is the result of Experiments made during the years 1841 and 42, as to the relative produce of New Wheats, and were the produce of equal portions of land :—

1841.

	cmb.	bus.	pec.	st.	lbs.
Perowne	3	1	2	... 17	9
Copdock	3	0	2	... 17	9
Rattling Jack	3	0	0	... 17	8
Siberian	2	3	2	... 17	13
Liddelow's White Talavera	2	3	1 $\frac{3}{4}$	... 17	7
Browne's White Chevalier...	2	3	1 $\frac{1}{4}$	... 17	7
Golden Drop	2	3	1	... 17	8
White Golden Drop	2	2	3	... 17	8
Old Red	2	2	1 $\frac{1}{2}$	... 17	9
Hart's White	2	1	3	... 17	3
Wittingham White	2	1	1 $\frac{1}{2}$	... 17	2

1842.

	per acre.	st.	lbs.
Spalding	best by 4 pkgs.	18	1
Perowne	minus 4 ...	18	6
Primrose	5 ...	18	1
White Walbrach	8 ...	18	3
Slipp's Hero (stiff straw)	13 ...	18	6
Pearson	16 ...	18	3
White Trafalgar	20 ...	18	3
Frary's Fancy	21 ...	18	3

All grown on land without manure.

There are several modes of dressing the seed; one by a mixture of salt and water (boiling) in the proportion of three gallons of water, two pints of salt water, and one quarter of a peck of lime, to four bushels of wheat; a second, where chamberlye is substituted for common salt brine; a third is to dress with arsenic; a fourth, one pound of blue vitrol, dissolved in nine gallons of water, which is sufficient for a coomb, while a fifth confers equal benefit by merely dipping a skep full of wheat repeatedly in clean cold water, and skimming off the light grains and smut balls which float to the surface, previous to adding the lime. The first plan is however the most common, and when carefully followed out, the crop produced is generally free from smut. Quantity of seed is regulated by the soil and climate. In cold situations where the plant is likely to be lost, thicker sowing is necessary, or where it is requisite for the occupier to protect himself as much as possible against destruction by game, a plan the late Lord Leicester always supported and pursued, contending that it was a certain prevention against any serious damage to the crop, independently of its always producing a greater relative cast. And although this doctrine has been very much questioned by many practical men, the point has not been entirely determined. Two curious circumstances have occurred, which furnish the results of two experiments between thick and thin sowing. The late Mr. Blyth, whose practical skill and regularity of management are well known, tried the experiment of thick and thin sowing at Burnham, upon the same field,

side by side, the quantity being double on one part to what it was on the other. Both parts of the field were treated alike in other respects. The trial proved that the thin sowing was by far the best.

In 1842, Mr. Henry E. Blyth, the eldest son, and who managed the preceding trial, determined upon a second, but instead of making the experiment in the same proportions, he tried various quantities in the same field. The result was as follows:—

	pecks.	Proportionate produce per acre.	bus.	pks.	pts.
No. 1. ...	7½	.....	...
2. ...	8	Increase over No. 1.	1	2	10
3. ...	9	.....	2	0	5
4. ...	10	.....	2	2	0
5. ...	11½	.....	4	0	6
6. ...	12½	.....	5	0	0

Deducting the seed, the actual increase was—

	bus.	pks.	pts.
No. 1.	
2.	Per acre over No. 1.	1	1 14
3.	1	2 9
4.	1	3 4
5.	3	0 6
6.	3	2 12

It may perhaps be argued, and with some appearance of justice, that experiments do not prove the general efficacy of the system. Most true; but they prove a

fact worth notice, that although extremes, in this case as almost all others, are not the best, yet that when the principle is tried by a graduated scale, the sound judgment and experience of Lord Leicester in agriculture may be justly relied upon. Mr. Blyth is further pursuing the experiment this year, and its result will be of some moment to agriculture, although perhaps its efficacy must generally depend on a high state of culture.

Some diversity of opinion exists as to the distance of drills, some maintaining that a wider drill gives more air, and consequently more strength to the plant; while others equally maintain that the closer system is most productive. The late Lord Leicester upheld drilling at wide intervals. He commenced with that of four and six inches; but his experience induced him to increase them to nine inches to admit the horse-hoe in the Spring, but not work it in such a manner as to mould up the plants, a system which at one time was practised.

The following experiment tried upon a mixed soil farm in the West of Norfolk shows, however, a result supporting the Earl's opinion, though not to the fullest extent:—

		bus.	pk.	pts.
1843.	9 inches	6	0	2
	7 ,,	6	2	2
	4½ ,,	6	2	0

A similar trial has been made for three or four successive years, and each terminated in favour of the

seven-inch drills by two bushels per acre. In each instance ten pecks per acre were sown.

The quantity of seed generally drilled is from two to three and three and a half bushels per acre, and the width six to nine inches.* If dibbled, about two pecks less is required. Drilling is principally practised on all soils, but dibbling is also followed to some extent on the fertile tender soils in the East, where an opinion still prevails that it is the most productive.

Dibbling is also increasing in parts of the West in consequence of the present mode of dibbling two holes close together on the flag, by which means there is sufficient room left for the horse-hoe to be used. In some instances the holes are mocked thus—

Statement between the difference of the cultivation of wheat on the drill system, and dibbled, in a field belonging to Mr. E. in 1818-19.

	Measurement. yards.	Drill 9 inches. a. r. p.
Length 1586, width 316	5 0 1	cbs. bus.
Seed at $3\frac{1}{2}$ bus. per acre	4 1 $\frac{1}{2}$	£. s. d.
Expense of putting in the seed ...	1 5 6	
Weeding, &c.	0 19 2	
Produce	32 1	cbs. bus.
Quantity reduced to an acre is 6.441 cbs.		

* On good wheat lands, if sown too thick the plant will fall off and become thin, from the effort it makes to tiller, which the confined space

Measurement.		Dibbled.
yards.	yards.	a. r. p.
Length 1586, width 681	10 3 8

Seed at $2\frac{3}{4}$ bus. per acre	.....	cbs. bus.
		7 1 $\frac{1}{2}$

Putting in seed, at 10s. per acre	...	£. s. d.
Weeding, &c.	.....	5 8 0
		1 10 6

Produce	70	cbs. bus.
	0	

Quantity reduced to an acre is 6.367 cbs.

Measurement.		Drill 6 $\frac{1}{4}$ inches.
yards.	yards.	a. r. p.
Length 1586, width 309	4 3 24

Seed at $3\frac{1}{2}$ bus. per acre	.....	cbs. bus.
		4 1

Expense of putting in the seed	...	£. s. d.
Weeding, &c.	.....	1 5 0
		1 1 10

Produce	31	cbs. bus.
	0	

Quantity reduced to an acre is 6.324 cbs.

On good loams the proportion is drilled "because, although the length of the straw will be less, it acquires a stiffness which prevents a heavy crop from falling. On the contrary, if sown thin, the plant will often run up weak, fall earlier, and although the quantity may not be

between the plants will not allow. On light soils it should be sown thick, because it cannot tiller. In the one a large ear will be obtained, in the other numbers.

much lessened, the quality is found inferior." On tender mixed soil the wheat is considered to be advantaged by drilling the reverse way to which it is ploughed—that is, across the ridges. The land having been drilled, a pair of light harrows well bushed with thorns, is run over to cover the seeds.

Rolling wheat on all soils is universally considered most beneficial, particularly after the frosts have rendered the land frothy. It gives a solidity to the soil, makes the wheat straw more staple, and has been generally found to render the crop more productive. Carrying out the system of proof adopted in all cases where it can be obtained, the following experiment is corroborated by several trials, and by leaving one portion unrolled of every field on one farm. It was always performed, not when the land was quite dry, but when it was sufficiently so to work the roll with scrapers. When the soil was quite dry it has not succeeded; perhaps from the want of adhesion of the particles of soil without moisture:—

	C.	B.	P.
1836—Rolled	7	2	3
Not rolled	7	0	0
	0	2	3
1838—Rolled	6	2	1
Not rolled	6	1	0
	0	1	1

Besides one hundred weight of straw in addition.

On the light soils, the Poppy or red weed is a great evil, and the usual mode of eradicating it is either to harrow in the Spring when the plant is young, or to hand-hoe, which task should be performed as early as possible, regulated by the weather. But whether the wheat be free from weed or not, it should be early hoed, before the plant has put forth much root, because by early stirring the earth, the air obtains access to its roots, an operation highly conducive to its rapid growth. It should be done in March, and not later than April. The cost is from 2s. to 2s. 6d. per acre.*

On the heavy soils, after ploughing, the drill roll is sometimes passed over, not only to consolidate the flag, but to raise mould for the harrows, which are passed over the land twice previously to the seed being drilled.

* "The great enemy to Wheat," says a correspondent to the writer, "on warm soils, is the 'Red-weed' or 'Poppy,' and causes a great expense in the shape of hoeing, &c. I have myself paid particular attention to this plant, occupying as I do land very subject to it. The Poppy is very hardy, capable even in a young state of resisting a severe winter or scorching summer, no doubt from the formation of the root, which runs straight and deep into the earth, and is consequently removed from the influence of either heat or cold. Those who have paid any attention to it, will have discovered that dry hot weather is unfavourable for its generating, and that autumn is the period when it first makes its appearance, and not the spring as is generally supposed. To prove this, look to our Barley crops—we rarely find poppies in them; when we do, it is in a very early sown crop in a wet cold spring. And such being the case, we may at once see the folly of hoeing the wheat so late, as we find very many of our farmers do. Even in the months of May and June we continue to see men chopping and hoeing over the land to get rid of the pestilent weed, when it has firmly fixed itself in the earth, and acquired strength enough to resist their efforts to overcome it. Having shown that autumn is the time of its appearing, the sooner we attack it in its defenceless state the better; it is perfectly clear this should be done before vegetation has become vigorous and rapid—say February or March at latest. Hoeing should be performed by hand, with hoes sufficiently wide to cut close to the drill of Wheat, that no ground may be

The following system for Wheat is pursued upon the heavy soils in the neighbourhood of Wymondham :—As soon as the trefoil hay is secured, manure the Olland at the rate of from ten to twelve three-horse tumbrel loads per acre, with soil which has been laying at the bottom of the bullock yards during the winter, and is well saturated with the liquid manure. This is immediately spread, and lays until Michaelmas, when the Olland is ploughed and laid in twelve furrow ridges—then rolled heavily, subsequently heavily harrowed, and the seed drilled in at seven inches. If the season be dry, nine pecks are sown; if wet, from ten to eleven. The land is harrowed until the seed is completely covered, the horses in all cases walking in the furrows. In early Spring, if the weather be dry, the wheat is harrowed with a set of three iron harrows attached to a horse-tree. These cover the ridges, while the horse continues in the furrows. If the land be clean, nothing more is

missed. The operator should not walk on the land after having passed his hoe through it, which may be avoided by taking three drills at a time, and hoeing only on one side of him; thus he may always walk on the land before it is cut, taking particular care to pull his hoe through every time that no ground be left uncultivated.

"A plan I have myself pursued successfully for its prevention has been the following :—Plough the land as soon as possible after harvest—say a month before Michaelmas—pass over it a light roll and pair of harrows in order to loosen the soil, to encourage the seeds to vegetate. About the 8th of October and fourteen following days, I put in my crop of Wheat, again passing light harrows over the seed. I then (just before the Wheat makes its appearance) harrow with a pair of harrows rather heavier, in order to root up and destroy all weeds that may have vegetated. By this means I have saved much trouble and expense, and instead of destroying the lateral roots of the Wheat by late hoeing, which in the spring of the year spread themselves immediately under the surface of the soil to receive the influence of the dews, &c. I have loosened and cultivated the ground for their reception, and increased and strengthened the plant."

done before harvest; but if it be infested by the Crow-foot weed, which is the scourge of this wet alluvial soil, the land is hand-hoed until clean.

OATS

ARE sown on the very light soils instead of wheat. The sorts grown are Tartarian (white and black), Friezland, Potatoe (short small), Poland, Heaver's (light.) They are generally harvested in the same manner as the barley crop, although some few farmers tie them in sheaves.

BEANS,

ON the five-course system, follow barley with some farmers; with others, wheat. In the first instance the land is baulked of clover, in the second it succeeds and precedes wheat; and in a third, on the alluvial soil of Marshland, as well as on some of the good strong soils near Norwich, Ketteringham, Fundenhall, Tacolneston, &c. they succeed and follow wheat, the only two crops grown being wheat and beans.

After Barley, upon a baulked layer, feed sheep for grazing with turnips, oil cake, and cut hay, as early as possible in the season, and immediately before the land is ploughed in February, manure at fifteen loads per acre from the farm-yard. When ploughed in ridges, make the rows out by a drill, fourteen inches wide, then dibble in single rows. Horse-hoe as soon as the beans have obtained sufficient growth, and keep them clean.

Another system—In January, if the snow be not deep, the land is manured at the rate of ten loads per

acre, with fresh-made manure, which is spread and ploughed in at a moderate depth, and so left until the close of February, or beginning of March, according to weather. The land is then harrowed lightly and rolled, the horses walking in the furrows. The ridges are marked out at fourteen inches wide, and the dibbles follow, carrying two of the lines at a time, each hole being four inches apart. From two to two and a half bushels per acre are dropped by children; the cost of dibbling and dropping being four shillings an acre. Light iron harrows bushed, follow to cover the seed. When the bean is up about four inches, the land is again harrowed lightly, and then rolled with a jointed roll, the horses still walking in the furrows. The object of rolling is to prevent the beans growing too tall before they break into blossom, and the effect has been found certain—the beans always being full from the bottom to the top. The crop is next horse-hoed half a ridge at a time, which is repeated always twice, and sometimes thrice, and ultimately hand hoed. When the bean is ripe, they are cut with a reap rook, or provincially termed "scrogged;" tied up in small bunches, and placed in shocks of four bunches, each being set at right angles with the other. The tops are then twisted together, the better to resist the wind, in which state they remain till they are hard and dry, when they are stacked. The succeeding crop, particularly if it be barley, is always better where the beans grow than on any other part of the field, and the land is also in a better state of tilth. The distance at which the seed is

drilled, or dibbled, varies from fourteen to seventeen inches, when in single rows. Two close rows are sometimes preferred, and a wide interval, because the horse-hoe can be used between the ridges.

On the good fen land beans follow and precede wheat. The mode of tillage is to skeleton plough, scarify, and harrow, to clean the land of stubble; then plough clean at five or six inches deep. In November plough again; performed by some farmers the same way; by others, across. In January or February, if the weather permit, ridge it with a double-breasted plough. Manure it with ten good loads per acre, and drill the bean immediately upon the muck in double rows at twenty-seven inches, and before it is covered up; then split down the ridges, and cover the bean and manure together. After they have been sown about a month, the annuals begin to vegetate; then harrow the ridges with a gang of light harrows, and when the bean is about two inches high, horse-hoe three or four times. After this they are by some farmers moulded up, by drawing a triangular shaped block through the rows.

The kinds grown are the French Tick, the Cambridge White, and Fullard's Prolific.

PEAS

ARE either taken on the Olland, sometimes before and sometimes after wheat, on a barley stubble, or a new layer when it has failed. They are drilled at distances varying from six to nine and twelve inches. As soon as they are up they are hand-hoed as clean as possible.

The sorts preferred are the Maple Grey and the Partridge. When nearly ripe they are cut by short scythes, fixed in a handle, called "Pea-makes," and are left in bunches until sufficiently hard to stack.

SAINTFOIN

Is grown to a considerable extent on the light lands to the South and South-east of Swaffham. For sheep there is no other hay equal to it. The reason the quantity grown has decreased, is from the land becoming so foul, and from the greater use of artificial manures. The best method of cultivating it, is to drill roll the land and sow the seed broadcast, at about one coomb per acre, having previously sown a small quantity of barley, which is better than any other grain. By some farmers the seed is steeped for forty-eight hours before sowing. Various top dressings have been tried with the following results:—

- No. 1. One hundred weight of saltpetre per acre—no effect.
2. One third of a ton of carbon—a good crop.
3. One half of a ton of rape cake—better than No. 2.
4. One hundred bushels of cinder ashes—produced a crop superior to all the other manures, at a cost of from 12s. to 16s. per acre.

Its produce, when grown for seed, is from seven to eight coombs per acre, and its value generally averages about the price of wheat.

VETCHES

Can only be considered as an irregular crop, and are grown in small quantities as Spring feed, for soilings. Upon the light lands, when grown, the wheat stubble is manured at the rate of from ten to twelve loads an acre, as early in the Autumn as possible. Plough it in a fair depth, harrow and sow. This is for early mowing in the Spring. In the Spring a portion more, and after a short interval another portion. The effect of this is, that as soon as one crop is finished, another succeeds, and the three will last through harvest to Michaelmas. Upon the good soils they are taken without manure, but the land is manured for the turnips which follow.

LUCERNE

Is only cultivated in very small quantities, because under the present system of cultivation pursued on the light lands by many in the Autumn, two crops of clover are obtained, and a good wheat crop afterwards. The best mode of cultivating lucerne is this—After the turnips have been fed off by folding, sow about twenty pounds of seed per acre, in drills fourteen inches apart, in the first week of April, having drilled six pecks per acre of barley the contrary way the last week in March. Mow it only once (for hay) the first year; plough or

fork between the drills in November; harrowing in the February following, dressing it with ashes or soot on the top of the drills.

BUCK WHEAT

Is grown principally to feed game. It is sometimes, though rarely taken, as in this year (1844), when the barley has failed or could not be put in on account of the weather preventing the land from being properly cultivated to receive it.

CARROTS.

THE two sorts grown are the Altingham and the Belgian; the former on the poor light sand, and in some places where the land is reclaiming; and the latter upon better soils, but neither in such quantities as to be considered as a staple portion of the growth of the county. Upon some of the good soils a few of the latter have been grown for home consumption, and have proved excellent food for horses, as well as for cattle. Carrots are grown on one farm in the following manner, after turnips, for the sake of being able to clean the land:—They are drilled on the Northumberland ridge, as narrow as it can be worked, in consequence of the increased facility for weeding, drilling on the flat or broad-cast sowing being much too expensive to clean. After they are taken up, the carrots are allowed to lie a fortnight in the heap, for the evaporation to subside, it being proved by an accidental experiment that they keep better than if stored as soon as taken up. They

are laid in ridges the same manner as mangel, and are chiefly used for milch cows and cart horses, as well as for all sorts of cattle.

POTATOES

ARE not generally grown in any large quantities, their cultivation being confined to what may be required for their own consumption. There is, however, one occupier in the Eastern division of the county with whom potatoes form one of the courses of his rotation, which is turnips, potatoes, beans, wheat, clover, wheat—the soil of his occupation being mixed loam, sand, and vegetable deposit, upon a substratum of clay and brick earth. The mode he pursues in the culture of the potatoe is this:—After turnips, about the middle of April, he opens furrows with a double-mould broad plough, at a yard distance; six women or lads follow a one-horse cart with the seed, and, into the aprons with which they are furnished, the team-man puts the seed as they require it, while they drop them at the distance of nine inches apart into the furrows. A double-breast plough follows and splits the ridges, again covering the seed; the land is then rolled with a heavy roller. When the potatoes are grown a proper height, they are moulded up by the plough, and, at the time of blossoming, these are all picked off by women or lads. When taken up, they are stored in pies about four feet wide and two feet long, covered with straw, upon which mould is laid about two feet thick. This occupier uses a large quantity, cooked for his cattle, horses, and pigs, and finds

them answer the purpose, having followed the system for some years.

HARVEST.

THERE is no part of Husbandry which is the cause of more anxiety or such joyousness as Harvest, and it is performed in all parts of the county in a similar manner. Within the last few years the introduction and general adoption of mowing wheat upon all soils, has created a new *særa* in this portion of husbandry work, and although it has abridged the humbler classes of some part of their privileges—a change to be regretted—it has yet been otherwise beneficial, insofar as it has shortened the duration and the labour of the harvest, and added to the employment of all ages by calling in the aid of the wives and children of the labourers. Neither has it decreased the wages of the Harvestman. A description of the mode on one large farm, witnessed by the writer, will be an exemplification of the system pursued in the county, except upon very small farms, and these only differ in the number employed, and sometimes in reaping instead of mowing.

The crop on the farm to which I refer “generally consists of 300 acres of Wheat, and 300 acres of Barley, for which from one hundred and ten to twenty men, women, girls and boys, are engaged. Thirty-four men mow the Wheat, and in order to lay it evenly the scythes are furnished with cradles made of iron rod. These men are each followed by two women, or one woman and a boy or girl, to gather and tie up the corn into small sheaves

and tightly, in single bands. Eight team-men belonging to the farm follow to shock up the sheaves, of which they set ten in a shock; the plan being always to place the two middle sheaves first, thus— \wedge ; they are thus a support to each other, and are very seldom blown down. As the sheaves are shocked, the stubble is horse-raked. The rakings are tied up, and when carted away are carried and placed by themselves. These are not allowed to be mixed with the rest of the crop.

The 300 acres of Wheat is usually cut in six days, and by that time, that which was first cut, is ready to be carried. The carting takes three days, with eight pitchers, eight loaders, and eight teams of three horses each, and four odd shaft horses. Four stacks are carried up in the field at the same time. There are five men to each stack, and the eight men will each pitch a stack of thirty loads a day. The stacks are of a round form. The wages are £5. 15s. each man, the women earn about 12s. a week, and the girls and boys double wages. The harvest is generally completed in from eighteen to twenty days. The stack stage in use is worthy notice for its simplicity, utility, economy, and neatness, as well as the ease with which it is put together, and moved to whatever place it may be required.*

The BARLEY is mown by the same men, and gathered by eight women with forks, at 6d. per acre. Six women follow the gatherers, with rakes six feet long, to rake up the corn before the waggons go over the ground. The crop is pitched and loaded by the same men who

* For a drawing, see the chapter on Implements.

pitched and loaded the wheat. Each pitcher is followed by two rakers. The barley is stacked by the same hands as the wheat, and both wheat and barley stacks are thatched as soon as possible, at fivepence per yard, measured at the eaves, by the labourers on the farm. On the first fine day the men are sent with sail cloths and poles to secure the outside corn. The cloths are laid round, and the men thresh the sides with poles, and thus from twenty-five to thirty coombs of barley are secured, which would otherwise be carried away by birds, or become so stained as to spoil the sample.



MANURES.

THERE is no county which has been indebted more, if so much, to the manures obtained from its subsoils, as Norfolk, and by none has a larger quantity been used, or with a greater increase of production. Mr. Coke, when he inherited his patrimony, exhibited by practice how great benefit was to be attained through the application of clay and marl to the surface soil, and its effects were so momentous that his example was immediately followed throughout the Western part of Norfolk, and in some parts of the East. The consequence has been that no county, and certainly no district exhibits to a greater extent the proof of this application, to be seen in the number of clay and marl pits which abound on every farm. A reference to the plans given of two or three occupations will demonstrate in some slight degree the extent of a system which is necessarily continued at certain intervals on every well-tilled farm, in order to give solidity and staple to lands whose production depends on a cultivation which can only be well carried

out by the union of high manuring and an appropriate application of the calcareous soils.

This system, although novel in some counties, as would appear by MR. PUSEY's Essay in a late number of the Society's Reports, is one of very old standing in Norfolk, far antecedent even to the following data, which are taken from an old account of a farm now in the possession of MR. THOMAS BARTON, of THREXTON, near WATTON, whose ancestor was the then proprietor. The account is further curious, as it shows when wheat was for the first time grown in that district of light lands.

1730.—White thorn layer used in fencing 15,700,
which cost £3. 18s. 0d.

1731.—Produce of the Farm :—

coomb.		a.	d.
41 Peas	sold for 10	0	per coomb.
23 Tares	.....	10	0
75 Rye	.....	7	0
298 Barley	.....	5	3
5 Clover seed	.....	30	0 per bushel.

—
442 coombs.
—

22 firkins of Butter made this year.

1732.—Marl carried, 2133 loads, at 5s. 6d. per score.

Produce of the Farm:—

coombs.

149 Rye

299 Barley

220 Oats

18 Peas

33 Wheat This is the first entry of Wheat.

720 coombs, which sold for £227. 12s. 0d.

1733.—Produce of the Farm:—

coombs.

165 Rye

98 Wheat

178 Barley

1 Peas

442 coombs, which sold for £194. 9s. 6d.

1734.—Produce of the Farm:—

coombs. a. d.

674 Barley sold for 6 3 per coomb.

20 Rye

694 coombs, which sold for £219. 1s. 6d.

The Thrashing cost 4d. per coomb.

1735.—Produce of the Farm:—

coombs.	s. d.
---------	-------

190 Wheat sold for 14	0 per coomb.
-----------------------	--------------

32 Peas	
---------	--

295 Barley	
------------	--

193 Oats	
----------	--

8 Tares.	
----------	--

718 coombs, which sold for £283. 0s. 7d.	
--	--

39 Cows were kept; and 97 firkins of Butter made this year, and sold for £87. 14s. 6d.

1736.—Produce of the Farm:—

coombs.	s. d.
---------	-------

313 Barley sold for 10	0 per coomb.
------------------------	--------------

32 Light Oats	4 6 ,,
---------------------	--------

82 Peas	
---------	--

427 coombs, which sold for £218. 15s. 0d.	
---	--

100 firkins of Butter made this year.

1737-38.—No accounts found.

1739.—Produce of the Farm:—

545 coombs, which sold for £155. 5s. 0d.	
--	--

91 firkins of Butter, sold for 21s. each.	
---	--

1740.—Produce of the Farm:—

coomba.	s.	d.
110 Wheat sold for 18	0	per coomb.
217 Barley	11	0
103 Oats		,
162 Peas	14	0
221 Rye	17	0
<hr/>		
813 coombs, which sold for £626. 3s. 0d.		

1741.—Produce of the Farm:—

coomba.	s.	d.
63 Wheat sold for 14	0	per coomb.
362 Barley	8	6
289 Peas	13	0
266 Rye	9	6
<hr/>		
980 coombs, which sold for £509. 4s. 0d.		

70 firkins of Butter made this year.

1742.—Produce of the Farm:—

coomba.	s.	d.
814 Barley sold for 8	6	per coomb.
306 Peas	11	0
287 Rye	7	6
19 Tares	7	0
<hr/>		
1426 coombs.		

1743.—Produce of the Farm:—

coombs.	a.	d.
65 Wheat sold for 10	6	per coomb.
904 Barley	5	0
361 Rye	7	0
203 Peas	8	0
115 Oats	6	6
<hr/>		
1648		

89 firkins of Butter made this year.

1744.—Produce of the Farm:—

coombs.	a.	d.
181 Wheat sold for 12	0	per coomb.
154 Rye		
39 Peas		
630 Barley		
<hr/>		
1004 coombs.		

86 firkins of butter made this year.

9650 layer was used in fencing this year.

In the interval between the years 1732 and 1742, six thousand three hundred and seventy-eight loads of marl were carried on this farm.

The proper quantity to be used of these fertilizers depends very much on the nature of the soil. Upon the very light from thirty loads per acre would be applied in the autumn, either on a fallow or on an olland, well

spread and left to the effects of the elements, and it is necessary in some instances to renew the same dressing every ten or fifteen years, according to the length of the lease. Upon mixed soils from twenty-five to thirty-five loads. Upon black loose sand, as well as on new broke-up land, not less than one hundred loads per acre. This is practised by some, while by others a reverse opinion is maintained. The latter, considering that even upon loose soils clay should be used in smaller quantities and oftener with greater advantage; the large sinking without pulverizing. The writer lately saw a black soil opened, which had been heavily clayed twenty years since, when the clay was found to have sunk so far that no benefit could be derived by any crop, and laying in a solid stratum. Had a smaller dressing been given, it would have pulverized and amalgamated with and given a staple to the surface soil. Upon good loams about twelve loads, renewed once in twelve years—upon some of the tender fertile moulds, from thirty to forty loads; and upon the heavy soils not less than forty loads per acre, are the quantities commonly used.

Marl in the Eastern part of the county, where it is of a peculiar description, is used on mixed land at the rate of from twelve to fourteen three-horse loads, and upon good loams from ten to twelve loads per acre.

A great improvement has been made in the farm-yard manure, and it consists in forming the muck heaps by a layer of mould or marl, and then alternate layers of different kinds of farm-yard manure, and covering them with earth or marl, the heap being formed by the horses

and carts being drawn on and emptying their contents; by this pressure fermentation is prevented. This system is generally followed by all good farmers, and some even carry out the principle to a further extent, by carting the manures from one yard to another, before forming a heap. The heap is turned over about ten days or a fortnight previous to use, when it is found in an early state of fermentation, which state is necessary to prevent the vegetation of seeds.

The importance of preserving the manure from saturation by water, for the preservation of its essences, as well as for economy in the consumption of straw, is now well understood, and no yard where farming is acknowledged to be carried on with any degree of excellence is found without troughs around the buildings.

The plan now most commonly adopted to secure the liquid manure from the yards is this—to form a drain and tank in each yard, through which the manure is conveyed to an outer tank, from whence it is pumped. This has been within the last few years much used. In one instance last year the effect upon wheat was considerable. In the Autumn a compost, formed of ditch and road scrapings and old banks, saturated with the liquid manure from the yards, was covered with three tons of common salt, to destroy the vegetating powers of weeds; it was afterwards turned and well mixed, and subsequently carried upon an olland and ploughed in, and the wheat drilled, the other part of the field having been manured with farm-yard manure. In February, 1844, the portion covered with the saturated

compost is exhibiting a more luxuriant appearance than that manured with farm-yard muck. The quantities used per acre were of the genuine yard dung nine loads, and of the saturated compost fifteen loads.*

In the Hundreds of East and West Flegg and neighbourhood of the coast, sea and common sand are used to cover the muck heaps in considerable quantities where it can be obtained, a sand pit not being a very common occurrence; the latter is a valuable adjunct in assisting to render the soil friable. It is sold at about 6d. a load. Sea sand is also much used. The bottoms of the cattle and horse yards and stables being in general lined with it about three inches thick. It is considered a valuable manure.

Reeds and rushes are used for manure and fodder, and such is the demand for it, that they are not easily obtained by those who have not marshes. They are sold from two to two pounds ten a waggon load.

Soot is used as a top dressing both for wheat and layers. For the former it is considered superior to all other top dressings. It is sown immediately after the frosts are gone, at the rate of from twenty-five to thirty bushels per acre, and at a cost of about 11d. a bushel, including the sowing.

* It was remarked by those engaged in Lord Macartney's embassy to China, as a mark of the great poverty of the people, that they followed the Embassy's train for miles to collect the horse dung. Whereas, in Norfolk, manure to the amount of thousands a year is collected, and the sum realized by the farmer from its use is in a proportionate ratio, which, but for this application of industry (though certainly a mark of the impoverishment of the industrious classes for want of better employment,) would be utterly lost.

Malt Cumbs are a good manure for turnips, at a cost of 3s. 6d. a sack.

Of the effect of the various artificial manures, actual proof speaks with far more power than words; this will be exhibited in the following accounts of experiments received from occupiers of the highest respectability. But it should be recollect ed that in making experiments either upon old or new manures, the only mode of judging is the extra worth of the crop compared with the extra expenditure. Where no extra expense is incurred, then the relative merits between one or another manure of a similar kind must be the test. No just estimate can be formed of the merits of an artificial manure against that of farm yard, because there are as many, if not more, varieties of farm yard as of artificial. The only test to be relied on is in the extra production compared with the extra expense, if any; if not, then relatively with another kind.

EXPERIMENTS.

NITRATES ON WHEAT.

	Corn.	Straw.
1838.—1 cwt. Nitrate of Potash per acre, produced extra . . .	5 bus.	4 cwt.
1 cwt. Nitrate of Soda. . .	7	
1842.—7 stones do . . .	4	
1843.—1 cwt. do . . .	5 bus. 1½ pk.	
And in all cases straw in proportion. This was upon similar land		

ON BARLEY.

	Barley.	Straw.
1838.—1 cwt. of Nitrate of Potash, produced extra . . .	5 bus.	5 cwt.

ON LAYER.

1838.—Nitrate of Potash was sown on a layer in April. The grass was weighed on the day on which it was cut (without dew); again when cocked, and again when carted.
1 cwt. produced 5½ cwt. of hay per acre extra.

WHEAT WITH SODA.

	embs.	bns.	pcs.		£.	s.	d.
Best	11	0	0	=	17	12	0
Seconds.....	0	2	2	=	0	18	9
Ordinary	0	1	0	=	0	2	0
	<hr/>				11	3	2
Straw, 30 cwt.					3	15	0
	<hr/>				22	7	9
	<hr/>						

WHEAT WITHOUT SODA.

Best	9	3	0	=	15	12	0
Seconds.....	0	1	0	=	0	7	6
Ordinary	0	0	2	=	0	1	0
	<hr/>				10	0	2
Straw, 32 cwt.					4	0	0
	<hr/>				20	0	6
	<hr/>						
Value of Soda Crop.....					22	7	9
Deduct cost of Soda.....					1	13	0
	<hr/>				20	14	9
Value of Crop without Soda					20	0	6
	<hr/>				0	14	3
	<hr/>						

SODA ON WHEAT.

A field of eleven acres of light mixed soil came into my occupation at October, 1841. It was then a barley stubble, on five acres of which I had been allowed to sow trefoil, white clover, and rye grass with the barley. Of the remaining six acres I clayed three at the rate of forty-five loads per acre, and manured three at the rate of fifteen loads per acre, during the following Winter. In the Spring of 1842 I planted peas on the clayed part, and beans on that manured. In the Winter I clayed at the same rate as before the three acres which had been manured, and manured that which had been clayed.

October 25th, 1842.—Drilled the whole field with red wheat, two bushels per acre. Throughout the Winter the wheat on the six acres of loose land was remarkably blooming and luxuriant; that on the five acres of trefoil stubble (the crop off which had been fed with sheep having corn) looking thin and weak. In the Spring of 1843 a change took place. The trefoil stubble wheat daily improved, whilst that on the six acres began to lose colour, and by the latter part of April (having been exposed during that month to cold Easterly winds, the field having an Eastern aspect) was very yellow and unpromising. On the 4th May I sowed 3cwt. 0qrs. 20lbs. of nitrate of soda on every two alternate ridges of the six acres; thus ensuring not only that exactly half the land was top-dressed, but also that

such part was precisely like the other in quality of soil, and in previous treatment. I had been waiting for an appearance of rain, and the five following days were wet (1·18 in all falling.) On the last of these days, the 9th May, I could begin to distinguish a difference in the colour of the ridges with soda, and by the end of the month they were of a dark green, the others still remaining very yellow, giving the field a remarkable appearance. Throughout the summer the same difference was apparent. At the time of coming into ear, the ridges with soda were about six inches higher than the others, but not forwarder; a difference in the size of the ear was however immediately apparent. At harvest both parts were root fallen, but that without soda more so than the other. On the 14th of August I began reaping the wheat, taking the greatest care to keep each two ridges separate from the others, and cutting straight out across the head lands. On three acres with soda there were 2409 sheaves, and 2146 on those without. On the 23rd I carted the latter, exactly six loads, and on the 25th I thrashed it, to prevent any possibility of mixing it with the former, which was not carted till the barn was again clear; on the 29th (seven loads) I had no opportunity of thrashing this till the middle of October; so that, as regards waste, the advantage, if any, was in favour of that part without soda; the difference in produce was fully equal to what the appearance through the summer had led me to expect. I state it in weight, as being less liable to error than measure, for a difference in condition frequently bespeaks an increased quantity,

which after all is nominal as regards the produce of flour and offal—the criterion of value.

	STONES.
Off the 3 acres with soda, I had	473
“ 3 without	351
	<hr/>
Increase . . .	122
	<hr/>

This at 1s. 5d. which is about the present value of wheat (and was also at the time of thrashing)

L. s. d.
would be 8 12 10 and
deducting 3 3 6 the cost of the soda,

leaves 5 9 4 nett profit,
to which 1 0 0 may fairly be added

for straw; 6 9 4 and if from this
0 9 4 be deducted

for extra expenses, it will leave two pounds per acre
nett profit.

If this be a greater return than other experiments have exhibited, it must no doubt be attributed to the wet Summer.

SALTPETRE ON WHEAT.

ON light land farm, with a gravelly subsoil, this manure has been found to afford the best proofs of its efficacy. The following experiment was tried upon a field of wheat, and in order that no error might arise from

diversity of soil between the one side and the other, the manure was applied upon every two alternate ridges. The result was this—

PRODUCE.

	stones. lbs.
Per acre manured with saltpetre	160 2½
Without saltpetre	133 12½
<hr/>	
Increase in favour of saltpetre	26 4
<hr/>	

	cwt. st. lbs.
Per acre of straw with manure	23 4 13
Without	20 7 8
<hr/>	

Increase with straw	2 5 5
<hr/>	

DIFFERENCE OF PRODUCE IN MONEY.

	£. s. d.
26 st. 4 lbs. of wheat (six bushels) at 7s. 6d.	2 5 0
2 cwt. 5 st. 5 lbs. of straw at 1s. 6d.	0 4 0
<hr/>	

Increase per acre	2 9 0
1 cwt. of saltpetre per acre, 27s.	1 7 0
<hr/>	
Increase profit per acre	1 2 0
<hr/>	

The price of the wheat was taken at 60s. per quarter, but the actual increased total return was £3s. 4s. leaving a profit of £1. 17s. per acre more than equivalent to the rent.

EXPERIMENT WITH NATIVE AND ARTIFICIAL
GUANO ON CLOVER.

HAVING tried Guano in the Summer of 1842 on clover, wheat, and turnips, and finding a most decided benefit was obtained from it in the former crops, I determined this year to use what I purchased chiefly on clover, and at the same time to try it against the artificial guano, and also against farm-yard manure. The latter was applied in October, 1842, at the rate of fifteen loads per acre. On the 4th April, 1843, I top-dressed an acre by the side of that manured in October with two cwt. of native guano, costing 12s. per cwt. On another acre, the same day, I applied two cwt. of concentrated guano, made by the Chemical Manure Company, costing 15s. per cwt.; and on the 10th April another acre was dressed with two cwt. of Potter's artificial guano, costing with carriage 15s. 6d. per cwt. Between each of these trial acres I left one ridge, and also an acre on the outside, without any kind of manure. It had been my intention to weigh the crops off each acre separately, but this I found it impossible in the busy season of hay-making to lose time after. The result given therefore is by estimate only, but not solely from my own opinion, which I may add was perfectly unprejudiced. Several of my friends and neighbours saw the crops, and their opinions, together with that of the men who mowed them, agreed with my own, viz. that the proportions were according to the following scale:—

Supposing the crop without any kind of manure to be as	6
Then the Concentrated Guano gave.....	7
Potter's	8
Native	10
And the Farm-yard Manure	10

The appearance throughout the Summer had led to this result. In a fortnight after sowing, I find in my field-book the following memorandum. "The native guano by far the best, and equal to that part which had been well manured in October."

After the crop was carted, having by me some of the same guano which I had intended for turnips, I determined to apply it on the clover stubble, in a part of the same field which had not been manured in any way for the first crop, leaving some of the land to test the difference. I finished carting the hay on the 20th June, and on the 28th, seeing an appearance of rain, I applied three cwt. on two acres, but from that time to the sowing of the crop for hay on the 2nd September, I never could perceive the slightest benefit from the guano. How is this to be accounted for?

EXPERIMENTS WITH SWEDE TURNIPS. ON STRONG LAND.

June, 1840.—In a field of four acres, drilled in alternate ridges, Skirving's purple-topped Swede, Matson's purple-topped and green-topped Swede. They were taken up the following December, and the weight of

each per acre, clean topped and tailed, was as follows :—

		tons. cwt. qrs. lbs.
Skirving's	.....	25 11 1 20
Matson's purple	19 14 1 4	19 8 2 8 average.
green	19 2 3 12	

Increased weight of Skirving's 6 2 3 12

ON LIGHT LAND.

RESULT of an Experiment between the Skirving Swede and the Norfolk purple Swede, both drilled in ridges 27 inches wide, the 31st day of May, 1841; mucked between the ridges with nine loads of farm-yard manure, with nine bushels of mixed rape cake and bone dust in equal proportions deposited between the ridges at the same time with the muck, and then split down and drilled.

The 1 rod of Norfolk Swedes contained 106 turnips.
 Weighed at the rate per acre 20 3-4th tons.
 Clean turnips ditto 15 1-3rd “
 Average of turnips with tops and tails on 2 4-7th lbs.

Ditto without ditto 2 “

Shewing a difference of nearly four tons of clean turnips per acre in favour of Skirving's.—Weighed Nov. 16, 1841.

The same result followed the experiments in 1842, between the same description of Swedes, of 4 tons per acre in favour of the Skirving.

PER ACRE.

The one rod of Skirving, containing 101	$\frac{2}{3}$	tons.
turnips, with tops and tails on, at the rate of		
The clean turnips ditto	19	"
Average per turnip with tops and tails on ...	$3\frac{1}{2}$	lbs.
Ditto without ditto	$2\frac{1}{2}$	"

ON LIGHT LAND.

	tona. cwt.
1842—Skirving's Swede.....	11 4
Old Swede	10 0
In favour of Skirving's	1 4

MANURES FOR SWEDES.

1842—Oil cake 6 cwt. per acre	13 0
Urate, same value	8 2
Without manure	3 5
1843—Oil cake, 6 cwt. per acre	14 10
$\frac{1}{2}$ bones and $\frac{1}{2}$ cake, same value	14 10
Bones alone, ditto	10 10
$\frac{1}{2}$ cake and $\frac{1}{2}$ guano, ditto ...	10 2

" I have tried," says this last correspondent, " Nitrate of Potash and of Soda for Turnips, without shewing the slightest benefit beyond increasing the verdure of the leaves."

FISH MANURE FOR TURNIPS.

ON a farm of three hundred acres of poor soil, with some black sand, the occupier has used sprats most extensively, and with the greatest success on all occasions; although the soil is unkind for the root, he is secure of a good crop. The mode in which the sprats have been applied is this; having carted into a heap a large quantity of the cleanings of borders or mould of any description, a trench is opened in the middle of the heap large enough to hold the requisite quantity of fish—which is about one ton to eight loads of earth. To every ton of fish is added one load of wet yard manure, and the heap being sufficiently large, the edges are thrown on the top till it is about fifteen or sixteen inches deep of mould. In about seven or eight weeks, this compost is turned over, the fish and mould being mixed as regularly as possible. In a short time before the turnips are sown the heap is again turned over. The muck is then set about the land in heaps, and spread over the surface of the field. It is next ridged up by a doubled breasted plough into twenty inch work, and the seed is drilled on the top. This manure has invariably produced a fine crop of turnips, and about twelve loads of mould mixed with one ton and half of fish is considered by this gentleman to be fully equal to twenty tons of the best farm yard manure. The turnips have succeeded so well, and the barley and following crops so materially benefitted that he has rarely used any other

than fish manure thus prepared. His consumption on this farm has been above sixty tons of sprats per annum, at a cost of about forty-five shillings per ton. "I am so convinced," he says, "of the advantage of sprats above any other manure for this description of land for turnips, that I would (if I could obtain a sufficient quantity) use nothing else for that crop."

MARSHES, MEADOWS, AND PASTURES.

No part of Agriculture has been hitherto so much neglected in Norfolk as the management of Marshes; and although of late years some considerable improvement in certain districts has taken place, there yet remains a very large tract in the eastern part almost in its original state.

Allusion has been already made to the vast improvements in Marshland, and the Norfolk Fen District in the neighbourhood of Downham and Southery, and the changes which have taken place; it is therefore needless to repeat them. Around Lynn, and from thence to Wisbech and Downham, at Gaywood, Wootton, Dersingham, Snettisham, and from thence to Burnham, Holkham, Warham, and Blakeney, there are marshes of fine quality—some salt, some fresh—under a good system of drainage and general management; those at Burnham were reclaimed from the sea by the late Mr. Blyth, and formed a valuable addition to his property. Marshes thus situated require mere surface draining; and

after the first cost of reclaiming, are improved principally by clearing out the ditches, spreading manure, mould or sand, while the weight of animals assist the pressure of the earth in rendering it more firm. These will generally carry about one fifty-stone bullock, sometimes even as high as seventy stones, or from six to ten sheep per acre.

Along the river Nar, through Narborough, Westacre, Lexham, and Litcham, to its source at Mileham, meadows of various widths follow the course of the stream, and are a great advantage to the properties through which they pass, particularly as the arable is generally light, and there is but little natural pasture. At Castleacre and Lexham are water meadows, perhaps the best constructed in the county ; they were made between 1802 and 1808, the cost varying from £10 to £40 per acre. The expense of clearing out the large and small drains amounts to about fifteen shillings an acre. In February, 1844, they presented a healthy and luxuriant appearance. At Mileham there are two pieces of meadow pasture (catch work) reclaimed from a complete bog by the present tenant in the year 1816, at an expense of £10 an acre. When Mr. Blaikie, the respected agent of the Holkham property, first visited this occupation in 1816, he was so struck with the improvements going on, that he exclaimed, " Upon my word, young man, you've a stout heart." The tenant had a lease for twenty-one years, which had run out about six or seven years. No more passed, but not long after, on the tenant returning from market, he received the fol-

lowing letter from Mr. Blaikie, to which was appended a note in the hand-writing of Mr. Coke, characteristic of the noble heart of that fine example of a just and liberal landlord. It ran thus:

(Copy.)

Holkham, August 10th, 1816.

SIR—I have much pleasure in communicating to you that I have it in command from Thos. Wm. Coke, Esq. to inform you that in consequence of the very great exertion made by you in the improvement of your farm, and on condition of your completing the draining and levelling of the bog meadow upon said farm in the autumn of the present year and following winter, it is his (Mr. Coke's) intention to grant you a lease for twenty-one years, to commence at Michaelmas, 1816, at the annual rent as previously settled and agreed upon.

I am Sir, your humble servant,

FRANCIS BLAIKIE.

At the bottom was the following note, in the hand-writing of Lord Leicester:

"I approve the improvements effected upon your farm, as reported to me by Mr. Blaikie, and in consequence will grant you a new lease from Michaelmas, 1816, for twenty-one years."

And this anecdote affords the power of exhibiting the advantage of the long lease system. The farmer to whom this lease was given, entered upon his occupation in 1810. It consisted of the off portions of several farms with common land recently attached. There was no building on the place, and the fences were almost all

to raise. The plate A shews its then state. In 1814 an inclosure took place, and forty acres of bog and common was added. This was reclaimed by the tenant at an expense of about £500. The farm was laid out afresh (see plate B), in which state it was when the above letter was written. Would these improvements have been made had the tenant held his occupation only from year to year? What is the sequel? The tenant has outlived the gratuitous renewal of his first lease, he has entered upon another period, and although the former was at a very reasonable rent, the advance on the new lease was only nominal.

Thus it was that Mr. Coke encouraged and repaid the energy of his tenants; thus did he foster agricultural improvement.

Along the margin of the Wensum and its tributaries which permeate that part of the county (as the accompanying map demonstrates), are meadows varying in extent, but none much more than a quarter of a mile in breadth, and of various quality, but all greatly improved within the last thirty years, by the usual mode of keeping the ditches open, by carting soil, rolling, and feeding; yet they are still capable of further improvement. This cannot be carried to its full extent, in consequence of the number of mills on the stream, which must for their own purposes always keep up a certain head of water, and consequently prevent an effectual drainage. Between Norwich and Yarmouth, along the course of the Yare, there is a large tract of marsh land, which till within a very few years was of little value. The inclo-

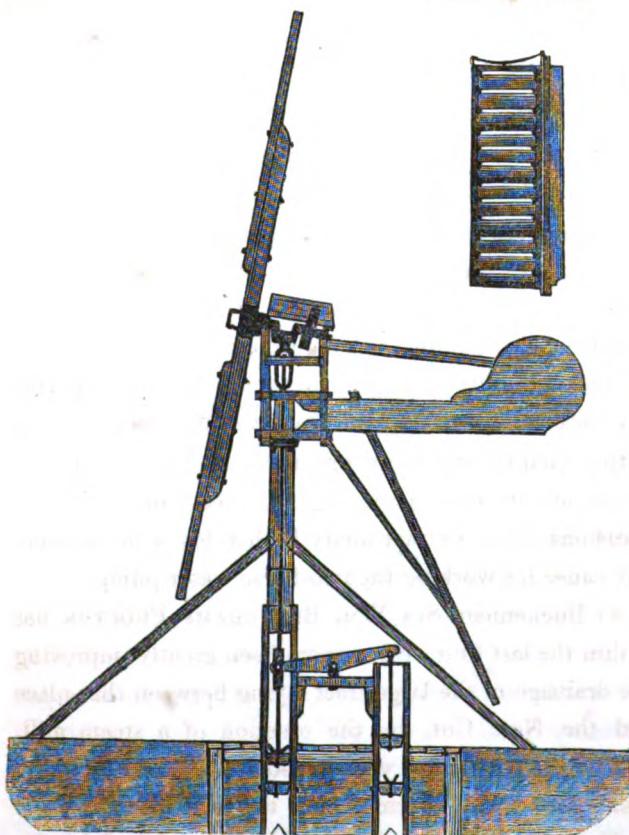
sure at Thorpe, Whitlingham, &c. caused some improvement in that neighbourhood; and although much more is required, a large number of beasts brought to the Norwich market are pastured there. The marshes between Thorpe Hamlet and the South-eastern part of Norwich have been very greatly improved by covering them with soil and by better drainage, caused by the more powerful reflux of the tide, in consequence of alterations at the mouth of Yarmouth harbour within the last fifteen or twenty years; the ebb and flow of the tide being now felt as high as Norwich, which previously was not the case. At Surlingham an improvement has been made. Within the last ten or twenty years these marshes were merely snipe grounds. They are now drained and rendered so solid as to carry both bullocks and sheep. **MR. MURRELL** has wrought this change within the last six or seven years by the following means:—

Having raised a bank, or wall, as it is provincially termed, and cut the necessary main and other drains to secure it from being flooded by the waters from the broads and the river, he built a two-horse draining mill, but finding this both troublesome and expensive, he caused a mill with two pumps to be erected by the inventor of the single pump mills peculiar to this county. This was constructed with sails, their power being regulated by a spring, and with the means of throwing itself into the wind on any change. The entire cost was small. The effect has been great. These marshes, which were but a loose peat bog six or seven years since, not only

carry beasts, but Mr. Murrell's flock has been pastured there this entire winter, and by the application of top dressing, instead of reeds and rushes he has a fine herbage. In the autumn of 1843 he underdrained with tiles covered with straw, at a depth of two feet, the drains running into the main mill ditch, a part not so solid as the rest. In January, 1844, it bore carting over. Three or four years since Mr. Murrell top dressed a part with different applications—one portion with marl, another with Yarmouth manure, a third with sea sand, and the fourth with nitrate of soda. For the first and second year the Yarmouth manure had the most effect, and the second year the sea sand exhibited a beneficial change; but although the marl made no visible alteration the first year, and in the second only a partial one, in the succeeding years the grass has been of a far better quality and more productive. This pump mill keeps about forty acres well drained, and only on occasions when extraordinary high tides occur is there any cause for working the two-horse water pump.

At Buckenham **SIR WM. BEAUCHAMP PROCTOR** has within the last four or five years been greatly improving the drainage of the large tract laying between that place and the New Cut, by the erection of a steam mill, that will in a very few years, render them very valuable grazing grounds. From thence to Haddiscoe there has been no improvement beyond what was caused by the extra drainage of the New Cut and one or two windmills. Between Acle and Yarmouth, and from Acle to Coltishall, there is a vast extent of marsh. Towards

PATENT SAIL.



SECTION OF A PUMP MILL.

Yarmouth it is from seven to eight miles in length, and from two to three in breadth. This first has received more attention, and been under better management than any other part of the marshes on the Eastern district.* Although the means by which this improvement has been effected must be the same as in most other similar cases, the number of sheep and beasts usually pastured prove that more than ordinary treatment could only have brought them to their present highly advanced state. The fertility of the soil will be judged by the following fact:—One of the marshes on the North side of Acle, from certain causes, was covered with water for two or three years during the winter, and not drained in the summer. At length these being removed, it was sown with oats. The crop was such as to excite the wonder of all passers. A second, a third, a fourth time has it exhibited nearly the same fertility, without a particle of manure; and this year it is cropped again, but with wheat, also without manure. Since the Tithe Commutation some acres have been broken up, and this is slightly increasing, and will probably gradually extend; but such is the value of good marshes, that the largest portion will in all probability never be touched by the plough. A short time since a large quantity, about 300 acres, were sold at £50 per acre.

* Near Yarmouth MR. BAKER, of ACLE, a few years since erected a small steam mill upon a tract of about one hundred acres of these marshes. A friend of the writer's, on the morning of the day on which the engine was started, was requested by the proprietor, as he went to Yarmouth, to look in and see how it worked. When he arrived at the mill he found it stopped. The reason was conclusive—it had in the course of a few hours so entirely drained the tract, that the ditches were empty.

MR. BROWNE, of Thrigby Hall, has reclaimed about an hundred acres of peat bog, and converted it into valuable grazing ground. This has been done by embanking it out from the surrounding bogs, erecting a mill, and constantly spreading it with soil from the mill drains and ditches, mould, &c. from the uplands, by weighting it with cattle, and by sowing clover and other grasses; the total expense of which, including the mill, was about £6 per acre. In the first year the hundred acres carried twenty beasts, and the rough rushes were mown; in the second, thirty young shorthorns and three score sheep were kept during the entire year; and in the third year, sixty shorthorn oxen, two cows, five horses, and eight score sheep, and all were healthy during the whole period. The sheep were fed with some oil-cake, which was very beneficial to the marsh.

By far the worst drained of considerable extent and of fine quality is that portion extending from Hickling to Horsey. These are under the controul of Commissioners of Drainage. This state arises from the tract being the property of a vast number of small proprietors, over whom there is no power, and some of whom erect their own skeleton mills; and while they drain their own marsh, deluge their neighbours without remorse. Besides a few scattered pump mills, only three or four common drainage mills are worked, and the consequence is, that the marshes remain for the greater part of winter under water. Nothing but a Parliamentary enactment will ever obtain an efficient drainage; and it is to be regretted that where so fine an opportunity is offered

for improvement, most important to the interests of all, and particularly to those of the larger occupiers, that they should not have availed themselves of their union to obtain an act for the certain drainage of a tract which promises, from the productiveness of some parts on its borders already under cultivation, to be as fertile as the arable of these two fine districts. The accompanying map will exhibit the marshes on the Eastern district.

PASTURES

ARE made either by laying down with seed or by inoculation. The latter is obtained by planting a number of small pieces of grass sod on a level surface, first properly prepared by the plough and rolled down. In a year or two these will have gathered together and formed a pasture nearly as good as that which has been standing for many years, and capable of carrying seven sheep per acre. Thus a very ordinary piece of land may be rendered one of the most valuable on a farm.

The best mode of treating low pastures is this, taking it for granted that they have been both surface and under-drained in such a manner as to prevent the water standing upon uneven parts, and to allow it to pass off by the under-drains. Clean out the water courses before the autumnal rains fill them and saturate the land. After Christmas bush-harrow it to spread the casts from the worms. When the pastures are wet, and horses cannot be better employed, roll them well. Feed them alternately with sheep and beasts, but never to so low a state as to amount to "knawing," or to make them sheep-

sick. Great and rapid improvement has been made where the pasture grows in coarse patches, by throwing linseed cake upon these in lumps. They are then greedily devoured by cattle with the grass, which would otherwise have been left untouched and remained in the same state. By this mode the nature of the herbage is essentially changed, and by a few repetitions of this practice these patches entirely disappear, and the whole pasture is greatly improved, becoming a velvet turf.

So inimical are horses considered to the best pastures, that in some leases clauses are inserted to prohibit or limit the number to be fed upon them.

If any pasture be kept for mowing, it is a better plan to mow the same field, always manuring it well.

On almost all the good and strong soils the pastures are excellent, but there is nothing peculiar in their treatment.

It was the practice, about twenty years since, to mow water-meadows, which did not improve them; they stood still, the quality of the hay partaking of the poverty of the soil from its rapid growth. In consequence of this evil, it became necessary to pursue a different mode, which has been followed with success. In March, when there is quite sufficient grass upon the meadows, often from three to four inches in height, sheep are turned in, where they feed during the day. In the evening the sheep are driven from the water-meadows to a new layer, where they pass the night unfolded. By this arrangement the upland receives the benefit of the teathe from the sheep, whose manure is

also perhaps more beneficial to the layer, from the nature of the food the sheep have eaten during the day. The sheep have most undoubtedly been benefited by the change, while the meadows have been greatly improved by the variation and rendered more firm.



BREEDS OF CATTLE, SHEEP, COWS, PIGS, AND HORSES.

NORFOLK has been celebrated more for its grazing than its breeding; the only cattle which are her own distinctive breed are the "Homebreds;" but these have taken no high place in the agricultural progression, although there are still some occasionally exhibited which demonstrate they probably might have been more improved had there been as much attention paid to them as to sheep. The county is principally supplied by Scots, Shorthorns, Herefords, Devons, Irish, and Lincolns, which are the beasts most commonly grazed. Of the number some data have already been supplied, but it can be even further illustrated by a reference to forty-six returns from farmers occupying all descriptions of soil. These amount to two thousand two hundred and thirty-five, being an average of forty-eight and a half in a return.

The system now pursued of bringing beasts to market in an earlier state of progress, has had a great effect on the supply and on the prices of store beasts, the average

number on Norwich Hill being at least from eight hundred to one thousand a week. Scots and Shorthorns are grazed in the largest numbers, the latter more generally, as they arrive at a greater weight. Of late years a larger number of Devons and Herefords have been shewn, and the improvement in the latter has obtained more admirers than formerly. But although Norfolk is not now a breeding county, and perhaps from the nature of its soil can never become so, because it can never be made good pasture, much attention within the last few years has been paid to the quality and breeding of stock, one of the fruits of the extension of information as well as of the practical experience, which has taught the farmer that a well bred animal will produce a return and an earlier maturity at a smaller comparative cost than a coarse one. Unfortunately, however, there is but little encouragement held out to those who have been induced to breed, because they cannot obtain a remunerating price, while the number of all qualities and species now brought from other counties can be supplied. From this as well as from the necessity which exists for farm-yard manure and high artificial feeding to ensure a crop, Norfolk will in all probability remain a grazing rather than become a breeding county.

The Dairies are not numerous in any part of the county, and are principally confined to the neighbourhood of towns where the milk is of considerable value. The kinds kept are Shorthorns, Devons, Ayrshire, and Norfolk polled. In the West there are a few dairies which send their produce to the London market, and

rear their calves for fattening. The Devons produce about an ounce of butter from a pint of milk, and the beasts are fattened at from two and half to three years old. The Ayrshire average from five to six pounds a week, and their produce are fattened at two years and a half old. The cows are put to grass in the Summer, and in the Winter feed in the yard with turnips, beet, oil cake, and cut hay, in the following proportions. When on white turnips, four bushels a day and half a bushel of cut hay; when on Swedes and beet, one and half bushel of each and half a bushel of cut hay; those cows not giving much milk, or nearly dry, two bushels of turnips a day and half a bushel of cut hay; when in profit, from two to three pounds of linseed cake at night, when they are tied up in the sheds.

The Calves are thus treated: weaned at a fortnight old; new milk given for one or two days afterwards; from five to eight pints of skimmed milk twice a day for about eight or ten weeks; and hay, turnips, or beet to eat; and when entirely weaned from the milk, which is done progressively, they have a small quantity of oat or barley meal mixed with the cut hay. They are turned out to grass in the Spring, and housed at night till the weather is warm; put into yards in Autumn, when the nights are getting colder; and in the beginning of November kept entirely in the yards and sheds, with from two to three or four pecks of cut turnips, and one and half to two and half pounds of linseed cake per head.

Yearling Beasts are put to grass in the Spring, and taken up in the Autumn for fattening, put into yards

or sheds and fed with turnips, beet, and oil cake, and sold fat at two years or two and half years old.

In the notice of Agricultural Buildings the ground-plan attached to an occupation where this system is practised is annexed. Nothing can be more convenient, considering it was not built for but adapted to the objects of a dairy and breeding farm, than the arrangements which these present. Every animal has its place and every place its animal, and the effect is that although apparently small in size, the quantity of convenience is more than proportionally large. The reader is referred for the corroboration of this opinion to the plan. The greater number of occupiers keep no more cows than produce sufficient for the consumption of the farmer's family. The calves mostly find their way to the butchers early.

SHEEP.

TWENTY years since Norfolk was a large importing county, now it is the emporium from which Essex, Lincolnshire and Suffolk are supplied for grazing. The pure breeds are the Southdowns, the Leicesters, and a few of the old Norfolk. The former are by far the most numerous on the light soils, while upon some lands in the West and East, Leicesters are preferred. For years after the Southdowns were introduced into Norfolk, a strong prejudice existed against them, and it did not entirely subside until the experience of their superiority shewn at Holkham and the Norfolk Association, in the form of the sheep exhibited for prizes, the weight they

attained, and the superiority of their wool, at length convinced the most prejudiced that they were more suited for the light soils, and the consequence has been that the Southdowns are now the staple sheep of the county. Previous to 1824-5, the perfection which years of attention and competition had created, was maintained; since that period there has been a heavy declension, the consequence of inattention, probably arising from agricultural distress, and the discontinuance of the Holkham Sheep-shearings, which closed in 1821. One of the causes of the want of uniformity and quality, now the prevailing complaint, is that the shepherds, instead of the master, are in too many cases allowed to select the ewe for breeding, and they look more to size and the chances of numbers of lambs, than to superior form, quality, and constitution; the effect is seen in the too general deterioration of many of the present flocks, compared with those of twenty years since. The master's hand and eye can alone secure the continued excellence of his flock, and if he have any care for its preservation, he will never neglect to use both. There are however a few flocks, whose superiority has not only been maintained but increased. The Leicesters have perhaps upheld their relative superiority in a greater degree than the Downs, and for the plain reason, that their numbers being less, there is less room for declension, and these are mostly kept for the sake of obtaining rams. The crosses are the Norfolk with the Down, and the Leicester with the Down. But so little regard and attention has been paid, speaking generally, towards avoiding

any other than the first cross, that most of the sheep have little family uniformity, and they are much degenerated. Of these crosses the latter is to be preferred, because while size and quality with aptitude to fatten are obtained, an earlier return is secured. From a Norfolk ram put to a Southdown ewe, a larger ewe will probably be obtained; and if this produce be again crossed by a Southtown tup, a good sheep will be the result; but a return will not be made so early as with the first cross of Down and Leicester, or the pure Down. This attention to the breeding will not be remedied until farmers feel the effects in less aptitude to fatten, and greater cost in making them fit for market. That such will be the effect, past experience, a sure guide, has proved in similar instances. Of pure Norfolk we know but of one distinct flock in the county, that of Mr. Denny, of Egmere, who has of late years been endeavouring to improve it by selection, but without a material alteration of any moment. It is certainly improved, but will never supersede the Down.

PIGS.

THE breed of Pigs are the improved Essex and the Neapolitan and Berkshire; but although in these animals there has been an amendment by the above two crosses, there is not sufficient to demand further remark.

HORSES.

NORFOLK cannot claim any distinctive breed of Cart-Horse that can be called peculiar. There is, however,

a race which, although not generally distinguished by beauty and symmetry, possess a hardihood of constitution, strength, and quickness of step, that render them of great value for agricultural purposes.

Superior in many other respects as the Suffolk breed is, in walking or fatigue these cannot generally exceed the farm horses of this county; and this is an important consideration on farms as extensive as those of West Norfolk. The pedigree of the Norfolk horses can be traced to no particular stock, but probably they might claim kindred with almost all the breeds in the kingdom.

Celebrated as the county was fifty years since, when every farmer had his trotting horse, and when farmers rode in companies to market, it is now indeed a rare occurrence to see a genuine Norfolk hackney. The race is almost extinct, and in the extinction a valuable and hardy breed, which had no compare, has been irretrievably lost.

BREEDING EWES.

THE SHEEP is an animal extremely subject to disease, and little under the influence of medicine; but from the number herded together, the sick sheep too often escapes the eye of the shepherd, until disease has too firmly seated itself to be removed. Little attention has been given by practitioners in the veterinary art to this animal, and the diseases to which it is liable.

A great thing to be attended to in Ewes is to keep them as much as possible in the same condition as to flesh, to insure which much thought and attention is required in order to provide food for them in all seasons.

To insure a good fall of lambs, the ewe should be in a thriving condition at the time of breeding, and should be fed on forcing plants to increase and invigorate the blood. Clover, saintfoin, and colewort are the best adapted to insure these results.

It is also evident that attention is as necessary to the male as the female, particularly on large light land farms, where they have far to travel in search of food.

The ram should always be rested after about two days; this may be done by alternately taking from the ewes two rams every morning, and returning those previously rested. Parting a flock of ewes is a good practice, but in light land districts, for top-folding, which is practised at that time, it is necessary to have all the sheep in one fold.

When the ewe has arrived within a month or six weeks of the time of bringing forth, she should be sparingly supplied with succulent food, and fed on hay or oats; the latter produce an abundance of milk.

A great error is too frequently committed by shepherds in turning ewes, immediately after lambing, upon the fresh and invigorating turnip tops, and allowing them to range at pleasure; reason will readily point out the folly of such a method. For a few days after parturition, the ewe should be kept quiet and moderately fed, in order to prevent inflammation, a disease which frequently attacks the womb and causes heaving and straining, which destroys hundreds every year. Once let the lamb attain sufficient strength to take all the milk from its mother, and you may feed as high as you please without injury.

Care should also be taken, if the ewe has any difficulty in lambing, not to let her lay exposed to cold and piercing winds; a number of pens should always be ready in which to place the ewes as they lamb, and in which they should be allowed to remain some time. Hurdles made in the usual way of what are called "gate hurdles," and clad with light weather board, four feet

high answer the purpose of shelter well, and are obtained at about 2s. 6d. each.

By arranging a number of pens made of these hurdles in a semi-circular form, the shifting of the wind is in a measure provided against, and the necessity of removing the flock to a yard is prevented, and the land is regularly folded for the succeeding barley crop.

To procure a good fleece of sound staple, sheep require to be well fed in the Spring of the year ; if at this season they are allowed to lose flesh, a weak place is always found in the wool, corresponding with its length at that time.

The above are the practical suggestions of a large flock master in the county, whose experience renders them worthy attention.

FEEDING HORSES.

THE most economical as well as the best mode of FEEDING HORSES is very important, inasmuch as their maintenance forms one of the largest items of expenditure a farmer has to sustain. A great contrariety of opinion exists, however, on one point, some being in favour of long hay as best for work, others of cut hay.

The following are the modes of feeding, as well as the cost of the system practised by several farmers on light and heavy soils:—

No. 1.

Soil with clover in the early part of the summer, grass the latter part. In winter long hay, miller's offal corn, or baked potatoes, according to prices.

No. 2.

Soil at summer when practicable, or sent out to grass. In winter, chaff, cut hay, oats with carrots, at the rate of six bushels of oats and seven bushels of carrots for four horses during the week.

No. 3.

Five bushels of pollard with one cwt. of hay, half cut and half long, per horse.

No. 4.

Bruised barley and bran, with cut hay, and a small quantity of long in the racks at night.

ON LIGHT LAND OCCUPATIONS.

No. 5.

	a. d.
1 bushel of oats	3 3
2 stones of bean meal	2 4
$\frac{1}{2}$ cwt. of cut hay	2 0
Chaff	1 0
	<hr/>
Per horse	8 7
	<hr/>

No. 6.

6 bushels of oats	18 0
2 ditto of beans	10 0
4 cwt. of hay	16 0
Corn, chaff, and cutting	12 0
	<hr/>
Divided by six horses .....	) 56 0
	<hr/>
Per horse	9 4
Extra allowance on journey	1 0
	<hr/>
	10 4
	<hr/>

No. 7.

	s. d.
5 stones of corn (various)	6 0
75 lbs. of long hay	2 4
Chaff	2 0
Per horse	<u>10 4</u>

No. 8.

1 bushel of ground beans	5 3
4 cwt. of hay, cut for six horses, equal each horse to	2 8
Corn, chaff, and a few Swedes	1 0
	<u>8 11</u>
Extra allowance for journeys for six horses, 2 bushels of oats in the Spring, about each horse	1 0
	<u>9 11</u>

ON HEAVY LAND OCCUPATIONS.

No. 9.

5 bushels of oats	16 10 $\frac{1}{2}$
2 ditto of beans	10 0
5 cwt. of hay	17 6
8 bushels of bran	6 8
Cutting	2 6
Divided by five horses.....	) 53 6 $\frac{1}{2}$
Per horse	10 8 $\frac{1}{2}$

No. 10.

	s. d.
5 bushels of oats	16 10 $\frac{1}{2}$
1 ditto of beans	5 0
6 cwt. of hay	21 0
8 bushels of bran	6 8
Cutting, &c.	2 6
<hr/>	
Divided by five horses.....	) 52 0 $\frac{1}{2}$
<hr/>	
Per horse	10 4 $\frac{1}{2}$
<hr/>	

No. 11.

2 bushels of oats	6 6
1 cwt. of hay	3 6
1 coomb of cut hay	0 10 $\frac{1}{2}$
<hr/>	
Per horse	10 10 $\frac{1}{2}$
<hr/>	

No. 12.

“I mow for them in the summer, feeding them in the stables and yard with green meat. In November feed them on Swedish turnips, giving each horse six stones or one bushel and a half daily. About eight acres will carry my horses, (16) through the winter months (about twenty-eight weeks) till the end of May. Upon this, with half a bushel of corn per week each horse, they will do well and consume but a small quantity of hay.”

It will be observed by these statements, that the expense on heavy soils is about a shilling a-head more

than on light, and this is to be accounted for by the fact, that it is very often the custom to keep a larger description of horse on the heavy than on the light land occupations, a greater weight of frame being necessary to work tenacious soils.

But the most important points in the management of farm horses is allowing them the free use of the yard, instead of confining them in a hot stable. The former plan, though practised by some farmers of long standing for many years, has been gaining ground very gradually, it being almost invariably found that horses thus treated are much more hardy and healthy than when kept within, and that they will prefer the open air even in the coldest seasons. Soiling horses is the most desirable system as well as the most economical—for ten acres mowed and given to horses in the yard will last longer, and go further than almost double the number when fed off, independently of its producing excellent manure, either for dressing the new layers in autumn, or the next year's wheat. Tares with rye sown early in the autumn will produce a large quantity of green food, and although when given alone and young, such food is of too succulent a nature for work, this is easily avoided by mixing cut hay with them. Tares drilled with trefoil and rye-grass form a superior food, the one acting as a corrective to the other. Besides, as the tares attain age, the effect is nearly equal to corn. In treating of a question upon which so many opinions exist as the feeding and treatment of horses, it is almost impossible to point to any one system as the most

worthy to be followed. In these cases experience can be the only guide, and from examples to be relied upon to shew the systems followed by those of acknowledged skill. But however diverse the modes of feeding, there is one point upon which all agree, that to enable a horse to perform his work well, and with comparative ease to himself, he must be fed so that his strength is always equal to the demand made upon it; and wherever this system is followed out, it is in the end found the best, the most economical, and the most advantageous, with the least risk of wear and tear to the animal.

WORKING OXEN.

SOME of the large farms in the county have from two to three and four teams of oxen, allowing an extra one to provide against illness or accidents. There are several cases in which oxen are more suitable than horses, and where they are a great additional assistance. The first is on a large farm to which a quantity of fenny land is attached, and where a field barn is requisite on account of the distance, because the horses never obtain a sufficient attention. Bullocks require nothing except food. The other cases are where the land is out of trim, and requires increased tillage, or when the farm is near a market town, and but few horses are wanted to carry the produce. The beasts most frequently used for draught are the North Devon, from their superior activity. These should not be selected too young, and when breaking in, ought not to be worked too much at a time. One of the best modes is to yoke them with a pair of old oxen before, and something heavy attached to their traces. The old bullocks will soon compel the

young ones to walk, and they become sooner reconciled from having companions of their own kind. Four bullocks will perform rather more ploughing than two horses. The difference in the expense of keeping is not material; but there is this advantage, that while the horse loses, the bullock gains value, and the first cost is less. In the neighbourhood of Norwich there is an extraordinary instance of how much can be done by a well-arranged use of oxen.

MR. CYRUS GILLETT, of Markshall, an agriculturist in East Norfolk, both as owner and occupier, ploughs all his land on one farm of 400 acres, throughout the year, with eight oxen and two ploughs. The turnip land is ploughed for barley twice, olland for wheat once, and stubbles for turnips five times. The farm is in hundred acre shifts. The oxen are changed four times in the course of the day, and each set is brought up by a boy, who has the care of the beasts. The men do not leave their work during the day, and the ploughing is paid for at the rate of eleven pence per acre for all kinds except olland, for which 1s. 3d. is allowed. This account may perhaps appear incredible, but its truth has been tested by many farmers. His land is scarcely ever behind his neighbours' in any of the business of the farm, and he very often precedes them in sowing his crops.

The usual mode of feeding is with grass in the summer, in the winter with cut hay, or chaff, turnips, and straw, with either from three to six lbs. of linseed cake a day. This is sometimes varied with bean meal. On the good lands of the East, oxen are not much used.

IMPLEMENTS.

THE progress of mechanical invention was comparatively slow in its application to agriculture, till quickened by the vast improvements other arts began to receive about forty years ago. Since that period a number of instruments have been contrived, some of which retain their place, have diminished labour, and cheapened various processes. Upon one first-rate farm we have seen the following implements:—

Norfolk Plough	Norfolk Light Waggon
Rutlandshire ditto	Double-shaft ditto for carting to market
Warwickshire ditto	One-horse Carts for turnips
Double-breast ditto	Two four-horse power Thrashing Machines
Light Harrows, four to the gang	Corn Dressing, Blowing, and Hummelling Machines
Strong short ditto	Gardener's Turnip Cutters for Sheep
Iron Harrows, pairs	Knives on stools for cutting Turnips for Beasts
Wooden-balk ditto	Horse Drag Rake
Finlayson's Harrow	Tumbrils for manure carting Ten-teeth Hand Rakes.
Two Biddell's Scarifiers	
Blaikie's Horse Hoe	
Garrett's ditto	
Ridge Hoe	
Tumbrils for manure carting	

Norfolk contains no very eminent factory expressly for agricultural implements;* but those of RANSOME,

* It will not perhaps be thought out of place if I give an abstract account of the improved or original Implements exhibited at the Holkham Sheep Shearings, &c. as far as my means will allow. Unfortunately those means are imperfect, but the list will at least have the effect of showing that although mechanical ingenuity had not arrived at that excellence which its combination with scientific knowledge has of late years enabled it to effect, the stimulus given by those meetings tended to the improvement of agricultural implements.

In 1804 two small thrashing machines were exhibited—one by Mr. Burrell, of Thetford, the principal novelty of which was, that the motion was communicated by straps instead of cog-wheels, and that it had a second set of rollers to return the straw to the beaters, the more effectually to beat out the corn. The other machine by Mr. Wigful. In this the motion of the drum was caused by the friction of the wheel against the roller instead of teeth or straps.

1805.—A two-horse thrashing machine, exhibited at Norwich by J. Balls, for thrashing peas, oats, and barley. It thrashed at the rate of five or six coombs in twenty minutes.

Three drills shown at Holkham Sheep Shearing for sowing rape cake and turnip seed together.

A Norfolk plough of improved draught, by Balls, of Holt.

Model of dibbling machine. A mowing machine, by Burrell, which was thought with a few slight improvements to be capable of working well and quickly.

A drill, by Wilson and Standup, of Lynn, on an improved principle for sowing cake and seed. It did its work completely and regularly. The quantity sown was set and regulated by a screw, and then closed so that the man could make no alteration.

A bolting machine, by Thurston, of Burnham, recommended for its cheapness and utility.

At the East Norfolk shew, a model of a dibbler, by Mr. Buller and a drag, by Mr. Hardy, exhibited.

1806.—A machine for cleaning the barley from needles, dust, &c. by Cardwell and Co. It could clear thirty or forty coombs an hour, and was furnished by a boy of fourteen years. It had been used by Messrs. Squire and Hills, Distillers, &c. of Norwich.

A dinanometer exhibited for the first time at Holkham, made by Mr. Walker, a Gunsmith of Norwich, under the direction of the Rev. Mr. Barker, of Swannington.

1807.—Balls' inclined plane plough exhibited. The standard being detached from the wheels the draught was nearer the work, and instead of

at Ipswich, and GARRETT, at Leiston, in the adjoining county, furnish a great proportion of the superior implements employed in Norfolk.

bearing down it would raise itself against the brow of a hill, keeping its perpendicularity. The depth was regulated by a crank, and a skim coulter before the share turned the manure from the surface into the furrow. The weight of the draught was determined by the dinanometer to be four cwt. The Norfolk plough was then tried, and proved to have the same draught.

A dibbling machine by Mr. Shepherd, made thirteen holes at a time, and deposited the seed. It was not considered to possess any great superiority.

A scouller to eradicate twitch and couch grass was tried. It did its duty well, but was cumbrous, requiring four horses.

A fly catcher, by Mr. Paul, of Tharston.

1808.—A machine for breaking oil cake, and also capable of being converted into a chaff cutter, exhibited by Mr. Cook, of Swanton Abbott—price ten guineas. It could be used with or without horses. With one horse and two women it would break eight tons of cake per day—with one man and two women half as much.

A drill for seed and cake, by Mr. Wilson, did not answer.

A threshing machine, by Cordwell and Brewster, with one horse; it would thresh thirty coombs a day—price sixty guineas.

Dibbles, which delivered the seed at the same time they made the hole.

1809.—A drill, with three barrels, made under the direction of Mr. Coke. One barrel for seed and another for cake, and one to keep the others in such motion that they should not clog up, and thus to ensure a regular deposit. It sowed four pecks per acre, and effected considerable saving. It was considered to be the best exhibited up to that period.

Another machine, for sowing turnips, was tried. It consisted of a barrel, nine feet long, supported by two low wheels; the seed was turned out by cups, and a cloth on the border prevented the effect of the wind.

Mr. Overman, of Burnham, exhibited a plough to break up roads. It was very simple, consisting of a long round sharp pointed shear. It broke up a hard road in the park, to the depth of sixteen or eighteen inches.

A Scouller, worked by four horses, was shewn. Barley after the use of this implement was said to do better than after being ploughed in. It would do twelve acres a day, and considered to be well calculated for light soils.

A Drill Machine to sow horse manure, and the seed upon it. It required the attendance of three men and two horses, and would do four acres a day. It had been tried the year previously, at Mr. J. Culley's, of Ringland. The

The farmers of Norfolk, generally speaking, have been guided more perhaps in the selection of their implements by the price than by the excellence of the

turnips were considered to do better, to be more vigorous, and more able to withstand the attacks of the fly, from the seed being sown upon the manure.

The same maker exhibited a Seed Drill, the coulters being moveable on one beam to any width. It was approved. Also a light Iron Hurdle for a fold; the cost eight shillings each. He sent an universal hand-hoe, which was in the form of an equilateral triangle, and would cut any width from one inch to ten inches. Also a screw adjusting Plough, which was considered peculiarly adapted to hilly land.

1810.—A Corn Stand, on iron pillows, exhibited; price seven shillings per pillar, from Carron Iron Works.

A Triangular Arator, by Mr. Balls, for cleaning summerleys; it would do ten acres a day, and save two ploughings. It was considered an improvement on the then scarifier.

1811.—A machine for breaking rape cake, worked by a mule and one man. It broke two tons a day.

A patent double box drilling machine, by Mann, of Thornage, for drilling wheat, with pulverised manure, at nine inches, and for drilling turnips at twelve inches. The seed and manure were kept separate, until they reached the lowest tunnel, when both were deposited at once.

An improved Northumberland drill, for sowing Swedes with oil cake, on ridges.

Mr. Bullen (Mr. Coke's farming steward) exhibited a good hoe, to follow Northumberland drill.

1812.—An improved drill by Mr. Mann, of Thornage; an improved turnip sowing machine, by Mr. Pigg, of Norwich; it consisted of copper regulators, which could be set with ease; was to sow from a pint and half to five pints per acre; an improved dibbling machine, by Mr. Burrell, of Thetford; a portable chaff cutter, by Mr. Cook, of Swanton Abbott; one-horse cutting machine, from fourteen to sixteen coombs per hour.

1813.—Mr. Cooke, of Greenwich, formerly of Creake, exhibited a new light plough; and Mr. Hammond, of Hingham, another, by Cooke, of Norwich, of cast and wrought iron, said to be calculated for all soils. These were tried against the Norfolk plough, belonging to Mr. Coke, on a summerly.

The Reports do not state the opinion given of the trial.

A new iron plough, by Sparke and Co. of Yarmouth.

1814.—A Bedfordshire hay maker.

A mill for pulverising oil cake, by Cooke, of Swanton. It broke five

workmanship, considering, that if the machine does its work, the perfection of its manufacture is not of sufficient importance to compensate the difference of the expense. Thus although the improved implements are in common use, they are mostly slight deviations from the best originals, which secure for their makers a demand at a cheaper rate—practical utility being preferred to mechanical superiority. There are, however, a number of agriculturists who take a different view of the question, and on their occupations the following implements are ordinarily found:—

RANSOME'S.	GARRETT'S.
Biddell's Scarifiers	Patent Horse Hoe
Thrashing Machines	Drag Rake
Seam Pressers	Thrashing Machines
Turnip Cutters	Drill
Chaff Cutters	Clod Crusher
A great variety of their Ploughs	Dressing Machine
AND	Ploughs
Grant's Patent Iron Rake.	Chaff Cutters
	Smut Machine
	Iron Rolls
	New Hand Chaff Cutter

tons a day, and was highly spoken of by Mr. E. Beck, of Lexham, by whom it had been used.

1815.—Mr. Blomfield, of Warham, a horse hoe, which would clean three rows of turnips with one horse. It obtained a prize.

1816.—An improved horse hoe, by Mr. Blaikie, cleaning two furrows at once. Mr. Paul's plan of plastering the bottom of stacks highly spoken of.

1817.—Several horse hoes, exhibited on Mr. Blaikie's principle, which were considered likely to cause an increase in the drill culture both of corn and turnips.

1818.—This year a hay making machine, inverted horse hoes, Blaikie's

MESSRS. J. R. AND A. RANSOME.

THE original founder of this now justly-famed firm was a native of this county, and therefore their implements demand an especial notice. The more so, perhaps, because although they are not so extensively employed in Norfolk as their excellence would entitle them to expect, still a large part of the implements issued from other smaller manufactories, and in general use, are similarly constructed, with only slight deviations from the original inventions.

The late ROBERT RANSOME, who established the IPSWICH Manufactory, was born at Wells, in Norfolk; and it is a somewhat remarkable coincidence, that the great patron and originator of the Norfolk system of

grubber and drills, were shewn; a self-sowing dibbling machine, by Woodward, of Norwich; an improved trench plough, for dibbling potatoes, with a horse-hoe for cleaning between the rows, and by another operation with a scraper to mould them up. An improved drill by Frost, of Saham Toney, was objected to as too heavy. The principal difference between this and others was in the manner in which it regulated the quantity of seed to be sown. A hand manure crusher, capable of crushing cake, oyster shells, or bones, was shown at work. It first broke coarsely, then rendered the shell more firm, and lastly pulverised it.

1819.—There appears to have been none worthy notice.

1820.—A universal drill plough, by Mr. Morton, of Leith, which received a prize.

1821.—A machine for breaking flax, worked by children, which consisted of upper and lower roll, furnished with bars of iron, through which the flax was drawn. The pressure of the upper roll was given by a treadle.

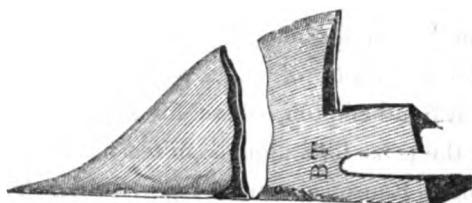
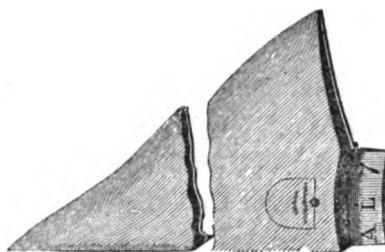
A drill roll, for light lands, by Mr. Johnson, of Hempton. The objection was its weight.

A plough, with a drill attached to its side; the scuppers adapted to any grain. It was calculated for ploughing and drilling at the same instant.

Agriculture, and the founder of the family from whose scientific skill and mechanical ingenuity a large number of the improved agricultural implements have emanated, should have arisen almost from the same spot; honours which the little sea port of Wells may recall with a just feeling of pride.

ROBERT RANSOME, the subject of this brief memoir, commenced business in Norwich, where he established an iron foundry, and in 1785 he obtained a patent for making cast-iron plough shares—an improvement which had an important effect in the succeeding advances so successfully made towards attaining that perfection which was exemplified at the Royal Agricultural Meetings at Cambridge, Derby, Bristol, Liverpool, which has annually obtained for them valuable prizes and medals for a variety of their implements, and more recently at Southampton, where his sons and grandson obtained the prize for a plough, suited both to light and heavy land. Ransome remained in Norwich but a few years, from whence he removed to Ipswich, where he commenced an iron foundry business, and, continuing his experiments on the implements of agriculture, he obtained in 1803 a patent for a mode of applying a case-hardening process to cast-iron shares. The object of this improvement was to ensure the under side of the share wearing slowly, while the upper part, by grinding away more rapidly, produced a constant sharp edge on the under side. The side of the point next the land was also hardened in a similar manner for a similar object. Shares thus tempered are less costly than ham-

mered iron, as they can be renewed at a less expense. The following is a representation of a broken share, the white lines showing the case-hardened parts :—



These shares were soon appreciated and came into extensive use, and the demand is largely increasing at the present day. For a series of years the Ipswich Manufactory was carried on alone by Robert Ransome, during which he continued his attention to ploughs and other agricultural implements, with comparative success. At length he associated his two sons, JAMES and ROBERT, with himself, who aided him in his experiments till the year 1825, when he retired.

Ransome's foundry has now become one of the largest as well as the most eminent for agricultural implements in the world, and is carried on by James and Robert, with JAMES ALLEN RANSOME, the eldest son of James; who is well known, not only as a most active and intelligent exhibitor at the agricultural meetings, but as a highly gifted and equally esteemed individual, exemplified by his work on the *Implements of Agriculture*, and by his general intellectual attainments. With these gentlemen is joined MR. CHARLES MAY, an engineer of repute.

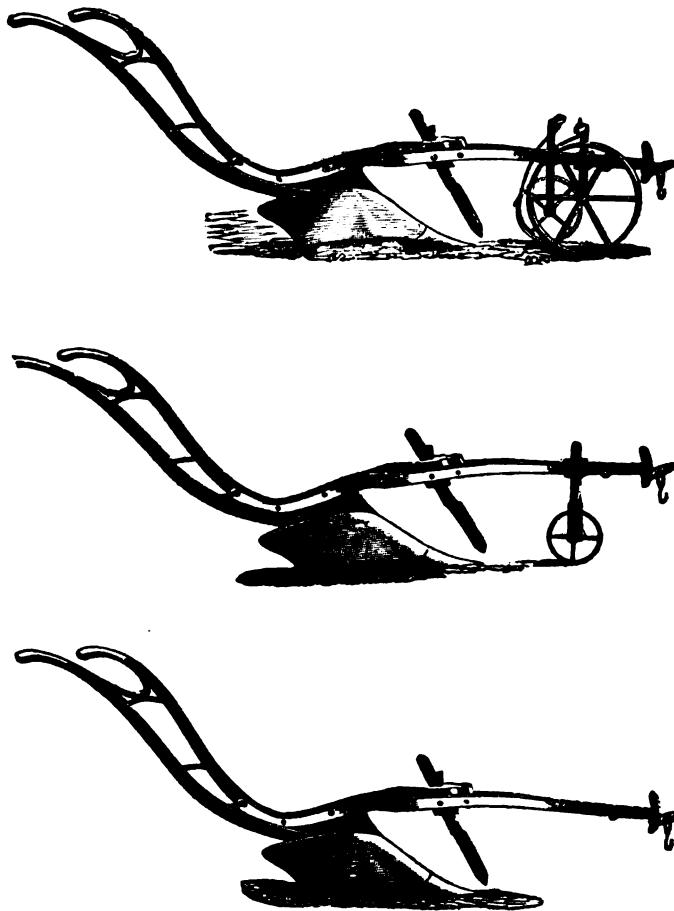
Every year since the establishment of the Royal Agricultural Society, this firm has brought out successful improvements in ploughs, as well as in other agricultural machinery. These have been extensively bought, and looking to the constant and untiring zeal for the promotion of the art to which this firm is thus so closely allied, these improvements cannot be regarded otherwise than as a part of a system, which, while it most materially tends to aid in the furtherance of agricultural advancement, is also a not unimportant branch of national prosperity—for to mechanical skill as well as to scientific improvement the nation must chiefly look for the further developement of those increased resources which are still to be obtained from the bounty of nature.

PLoughs.

THERE is perhaps no implement which has undergone more improvement or more variation than the plough;

and a glance at the catalogues which of late years have emanated from the most celebrated implement-makers, will prove of how vast importance it has been considered to obtain such a construction that while lightness and stiffness were ensured, vibration in the beam should be avoided, and a perfect action with economy of power, or a diminution of resistance should be secured, for from such a combination true work can alone result. To obtain these great desiderata, appears to have been one of the great objects with Messrs. Ransome, for from no foundry has ever been seen a greater number of these implements, or which combined in a larger extent these leading points; but in every case exhibiting the thought and skill from which they had proceeded. The Reports of the Royal Agricultural Society demonstrate the estimation in which these progressive improvements have been held. It was however reserved for these manufacturers to exhibit, at the Southampton meeting of the year 1844, a new plough, which proved itself equally well adapted for light and heavy soils. This implement was chiefly novel in its material, and formation of the handles and beam. These are constructed of the best wrought iron, combining lightness with adequate strength. The beams are made on the "truss principle"—that is, connecting the two sides together in such a manner as to prevent them from giving way to any amount of force, on whichever side it may be applied. The other new point is the mode of fastening the coulter, which facilitates its being placed in any new position with rapidity and ease. The following cut exhibits the figure of the prize imple-

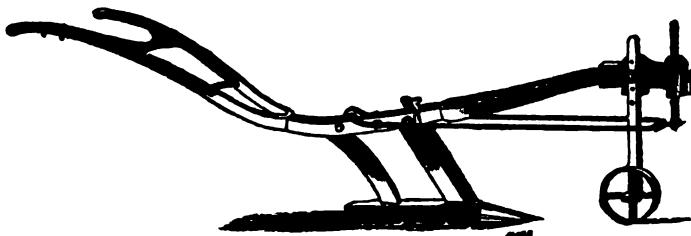
ment, either with two or one wheel, and as a swing plough.



We had seen the plough at work at Mr. Henry Overman's, of Weasenham, in the Autumn of 1843, and the opinion of the judges at Southampton has fully borne

out the high opinion that practical farmer gave us of its capability and excellence.

Among the implements of late invention which have deservedly obtained the inventor great credit, and from their utility have come into considerable use—one more particularly than the other—are the subsoil and subturf ploughs, the invention of SIR EDWARD STRACEY, of Rackheath Hall, Norfolk. Although these implements are so well known, yet any report of Norfolk Agriculture would be incomplete were either a notice or a sketch of one of them omitted. Their effects have been found most beneficial on many soils, where the natural tenacity is increased by a hard substratum. On one farm where the land was subject to suffer from the rains in the autumn, the subsoil plough was passed up the furrows on a turnip fallow previous to the autumn ploughing. The effect was to free the land from a more than ordinary quantity of moisture which happened to fall that year, and to benefit materially the following crop of turnips. Sir Edward has already described the utility of the former upon the heath-land attached to his estate, as well as the improvement of his park by the subturf plough, in the journals of the Society.

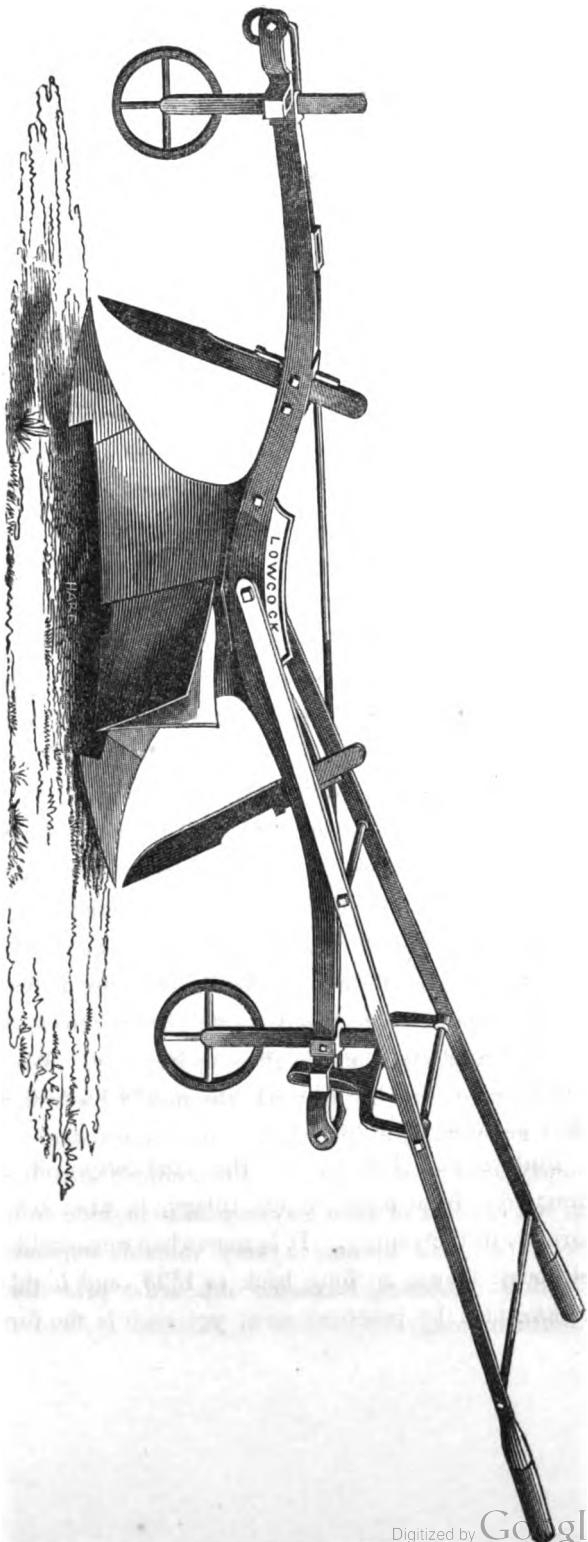


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A practice has lately become very prevalent in some parts of the county, to lay the furrows in one direction. This method, if it should be found advantageous, will be greatly aided by Lowcock's new plough. This gentleman is a farmer at Westerland, Devon, and his attention was drawn to its necessity by having found that great injury was sustained in his neighbourhood by the currents of air drawn up the furrows when the land was either ridged or thrown into stetches. When the land is laid in one plain surface, it is thought that the seed can be more easily deposited—and that in rainy seasons it will absorb the moisture with greater regularity, and in a dry one would be less injured by drought. This implement seems to be the combined result of theoretical knowledge and practical experience—Mr. Lowcock farming wet soils.

The mode of adapting it to each furrow is extremely simple. When the ploughman has arrived at the end of the furrow, he directs the horses round on the unploughed side of the land, and the draught chain slides on a rod to the other end. While they are moving, he reverses the handles, where a catch drops into a mortice in the beam, and the plough is again ready. When the share and coulter are in work, the mould board flies into its proper direction, in which place the resistance of the newly-cut furrow keeps it. Presuming the conjectures as to the effect of such a system of ploughing to be correct, this will become a very valuable implement in Norfolk. Messrs. Ransome obtained a prize for it at Southampton.

Lowcock's Plough.



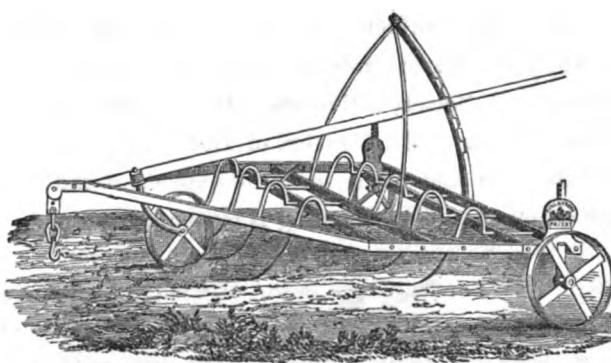
The ploughs in most general use are the Norfolk and the Swing Plough, which have been rendered lighter and steadier than formerly. There are none perhaps as a whole better suited to the soil, although for particular purposes there are some superior, the Rutland having been found from its length of plat to whelm the olland better; while the Norfolk, from its short breast, lays the earth looser and rougher for the operations of the winter.

HARROWS AND SCARIFIERS.

The harrows are not remarkable for any great peculiarity. They are made light or heavy, and either entirely of iron or with wood balks. They are used in gangs of two and four, according to the nature of the work. For harrowing in seeds a gang of four light harrows, with four balks, is used; while for quicks the best farmers employ a pair of light eight-balked harrows with eight fine teeth in each, three inches long at front of the harrow, and four and a half at the back, with a light iron handle for lifting; the implement being drawn in the usual diagonal position. These are found to be the best kind for such purposes, and are a saving of time and labour from the certainty and regularity with which they perform their work.

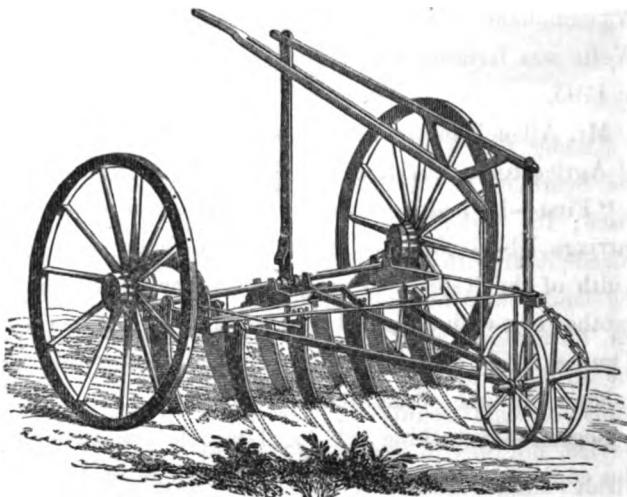
Finlayson's Harrow, for the eradication of couch grass, &c. from lands under tillage, is used by some farmers in the county. It is somewhat remarkable that although in use so long back as 1833, and highly recommended by practical men, yet such is the force of

habit, that it is comparatively but little employed. That its efficacy is greater, and the labour less to the horse is ascertained, while it greatly facilitates the use of both ploughs and harrows. Here it is.



Among the most important inventions of the age, the Scarifier, by Arthur Biddell, must take a high place; for perhaps no other implement can be produced either with the power or the facility of cultivating land, under any circumstances, with such success. Its advantages also are found to be great both in the strongest as well as light soils. Upon the strong lands of this county it has been of the utmost service, not only in preparing them for turnips, but for barley; and there are instances, particularly in the southern part of the county (one of which we have given in describing the course of cultivation adopted on heavy soils), where its beneficial effects have been invaluable. The teeth are inserted at intervals of four inches, and the tines are so constructed that steel hoes

may be fitted to them, and the surface thus pared with dispatch. Although capable of having very great power applied to it where it is necessary to tear up very hard surfaces, it can still be worked by a pair of horses on the generality of soils. Mr. Case, of Thorddon, near Eye, Suffolk, has borne high testimony to its utility, in the first volume, part three, of the Royal Agricultural Society's Reports; Mr. H. Overman, of Weasenham, and Mr. Gedney, of Harleston, who have used them for some years, gave the implement the same high character. The following is its representation.



There are a great number of home made Scarifiers in the County, but these are, as far as we have seen, very little different in the structure or operation to the Grubber.

DRILLS.

THE drill is among the earliest of those inventions in Agricultural Machinery, and one of the most important, from which have sprung many of those aids, which by facilitating and lessening the expenses of production, have added to the food, the comfort, and the wealth of the nation.

WELLS AND BALDWIN.

The men who invented the two greatest improvements were HENRY BALDWIN, of MENDHAM, and S. WELLS, of HARLESTON, Norfolk. The latter was living at Wymondham, in 1841, and was then 77 years of age. Wells was farming bailiff to Mr. Baldwin, from 1778 to 1795.

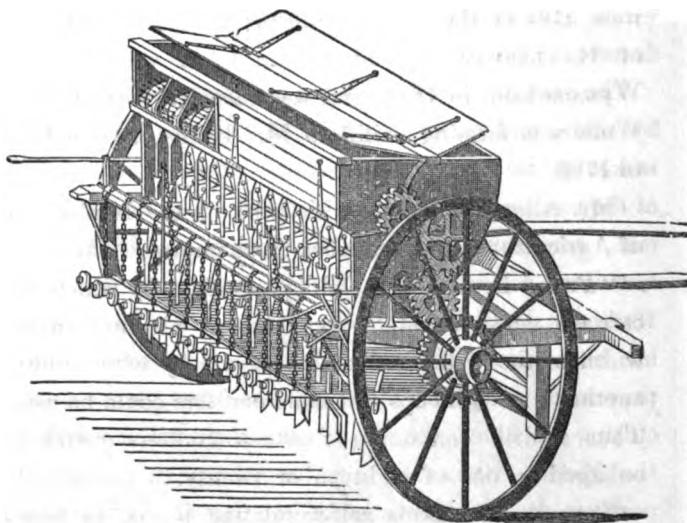
Mr. Allen Ransome, in his work on the Implements of Agriculture, thus describes these improvements :—

“ First—In making a sliding axle-tree, by which the carriage wheel could be extended at pleasure to the width of the “stetches” or lands, and by which means another box with cups and more coulters could be used. Thus a drill containing fourteen coulters could be enlarged to one of eighteen or twenty.

Second—In making self-regulating levers, to which the coulters were attached; this was done by hanging each coulter on a distinct lever, placed at right angles with the cross-bar of a framing, upon which each lever was made to swing by an ordinary hinge joint, and had a moveable weight at its opposite end, to press the coulter into the soil.

By the levers being thus contrived to work independently of each other, they accommodated themselves to the irregularity of the surface of the land, and the impediments they might meet with, without disturbing the whole. These are still in use.

After Baldwin and Wells, the improvements made by MR. SMYTH, of PEASENHALL, were among the most material, and led to the present perfection of the implement.



The principal of these alterations were a mode of adjusting the coulters, so that each was independent of the others. A manure box and cups for a simultaneous delivery of each—to drill manure and corn, and

at the same time to sow grass seeds—the swing steerage, &c. In Norfolk similar machines are employed, although with slight variations.

THE MESSRS. GARRETT,

ALTHOUGH not Norfolk men, have by their improvements in a great variety, and their inventions of many implements now in use, obtained such general and high estimation, that it would neither be just nor generous were we not to notice the honourable skill and energy which have elevated their manufactory to its present deserved reputation.

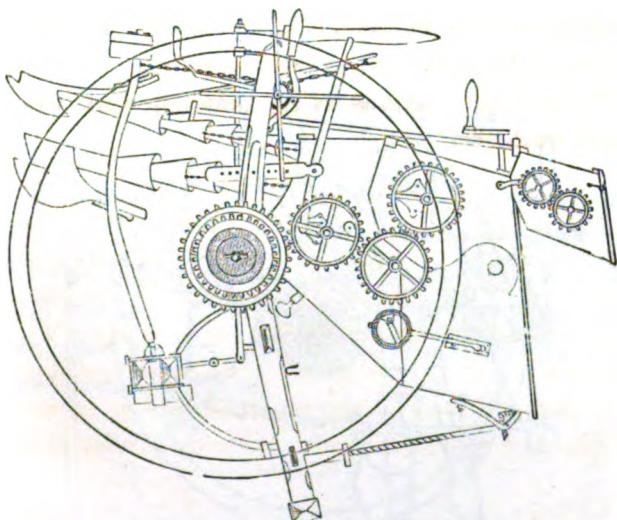
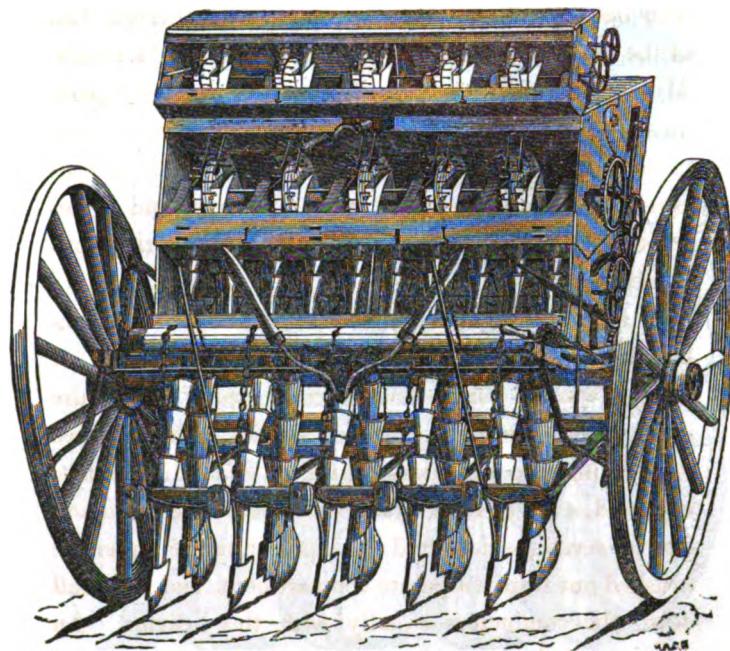
The grandfather of the present proprietor was a smith by trade, and carried on a small business of a sickle maker on the spot of the present works. The founder of the business, the late R. GARRETT, a most energetic man, commenced business for himself in 1804, and associated his son, the present proprietor, in the year 1826, and died in 1837. The attention of these makers has been principally directed to the invention and improvement of drills, thrashing machines, horse-hoes, cutting machines, &c. &c. Like their contemporaries, the Messrs. Ransome, they have borne a prominent position at the Meetings of the Royal Agricultural Society, where their drill for general purposes and their horse-hoe in 1840, 41, 42, and 43, received prizes.

The spread of the drill system, arising from its greater rapidity, its certainty, the facility it afforded for horse-hoeing, as well as the saving of seed, naturally called forth greater attention from manufacturers in general.

This has been already shewn even by the imperfect data of the implements exhibited at the Holkham Meetings. **MESSRS. GARRETT and SON** have been in this department peculiarly successful—a success exhibited not only in their drill for general purposes, which has the advantage of combining economy with efficiency, and of depositing corn and manure together, and covering both immediately.

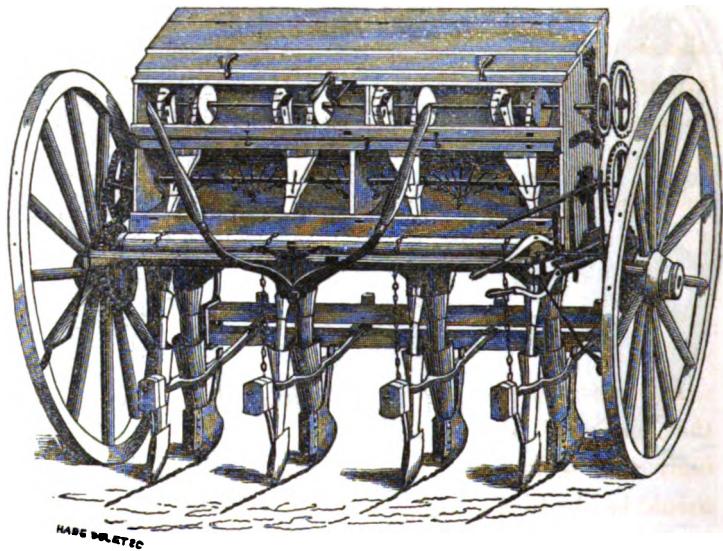
A seed engine may be used separately, or in combination with it; and either for grass, turnip, or mangel wurzel. By a double action screw, the manure is prevented becoming clogged, and by being pressed forward into the depositing barrel, an equal distribution is caused, even of the coarser manures. The small and heavier seeds are delivered by cups, while the lighter are brushed out from a separate compartment, and they fall down the conductors equally with the heavier. An apparatus, which enables the workman to accommodate it to hilly and uneven land, is also attached. They are constructed for from eight to fourteen rows.

This engraving exhibits its appearance in work, with its side machinery.

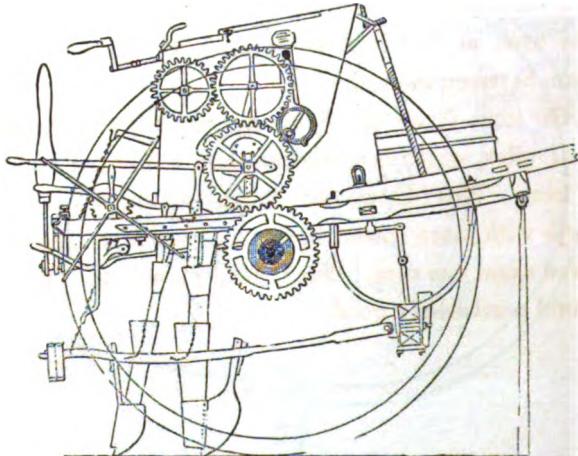


SIDE VIEW.

The following is the Drill for turnips or mangel, which has axletrees to slip to enable the workman to alter it to different widths. To the fore carriages of the two-coulter drill, rollers are attached.



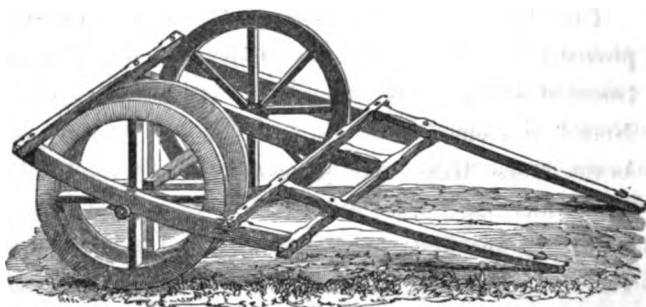
SIDE VIEW.



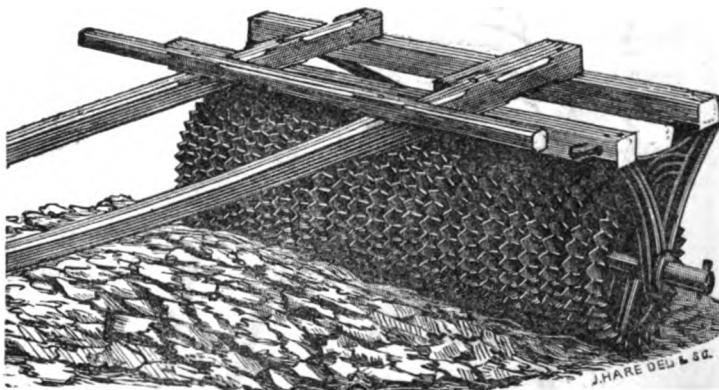
At the East Norfolk meeting in 1844, these makers exhibited a Drop Drill. The object of this was to economise costly manures. This machine is so constructed as either to drop or to deliver the manure in one continued stream, at the option of the farmer. It also avoided the evil of depositing the seed with a strong manure, by dropping each at any required interval, and in such a way that the manure, although below the seed, was always covered with mould before the seed was deposited above.

It is very material upon the light lands of this county, that, for the wheat crop, the Olland should lay exceedingly firm, at the same time that sufficient loose soil should be obtained to cover the seed after the drill has done its work. For time almost immemorial the drill roll has been used for this purpose, of late years this has been so contrived as to leave no appearance of a seam between the rollers.

On some farms the Seam Presser has succeeded the drill roller, which is a roll consisting of but two cylinders of iron. This follows the plough and presses down the earth with more power, because its whole weight is centered upon one spot. For Olland ploughing it has been found particularly good.



One of the best implements of late invention, and which has been stated in a previous part of this work as not only useful as pulverizing and preparing heavy land for the barley crop, but also as very efficient in preventing the attack of the wire-worm on wheat by its pressure, is the Clod Crusher. This implement has been worked by many farmers in this county within the last year or two, whose testimony to its excellence is of the highest kind. Late improvements have added to its utility.



The old Drag Rake is disappearing before the Improved which late years have produced. Among these (some of which will be found in the lithographic plate of Norfolk implements), the Suffolk, Garrett's, and Grant's Lever Horse Rake take precedence, from the facility with which their tines can be elevated or thrown into work. In the first the teeth are raised by a handle. The second has a somewhat more complicated leverage to effect the same object. Each tooth works independently on a separate lever, and the oblique direction of the teeth is raised or lowered by means of the lever.

GARRETT'S HORSE RAKE.

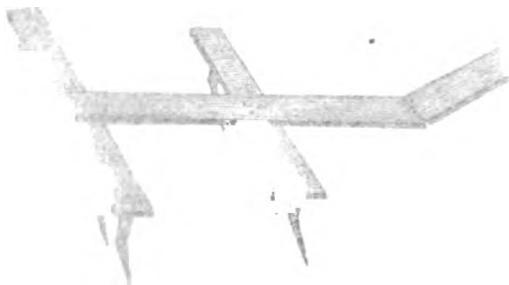


Grant's, we believe, is held to be the best, both as to the mode of elevating the tines, whose formation enables them to be freed from the straw without any ground being left unraked, and in other respects. Those who have used it in Norfolk, speak highly of its utility.



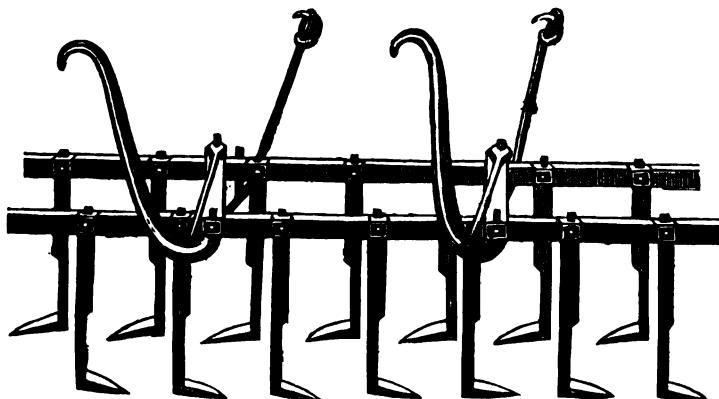


LITERATURE

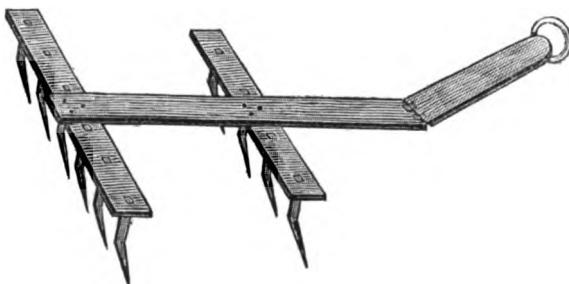




THE INVERTED HORSE-HOE.



THE GRUBBER.



FRANCIS BLAIKIE

BECAME known to the County of Norfolk as Agent to the Holkham Estate in the year 1816; and as I have already given a brief memoir of individuals who have aided in the improvement of agricultural machines, I shall be pardoned for taking advantage of the opportunity thus afforded me to introduce a

notice of one whom many of the past and present generation remember with high esteem. I shall confine my notice to the period when Francis Blaikie became agent to the then Mr. Coke, and a narration of circumstances which led to that connection, as they are matters of general public as well as individual interest. About the year 1813 Mr. Coke paid a visit to the late Earl of Chesterfield, at Bradby, that nobleman's seat in Derbyshire. Mr. Blaikie had for a long series of years been agent to Lord Chesterfield, and was then for the first time introduced to Mr. Coke. Although personally unknown, they had however often corresponded upon agricultural subjects. In going over Lord Chesterfield's farms, Mr. Coke remarked some fine crops of turnips and mangel wurzel, cultivated on the ridge system upon heavy land, but his attention was also particularly attracted by a fine piece of yellow bullock turnips, drilled on the flat upon light land. Mr. Coke not having before seen cultivation on the flat, was forcibly struck with the system as being particularly adapted to the light soils of Norfolk, and requested a written account of the mode of culture, in order that he might make it known at the Holkham Sheep Shearing the following year. The request was complied with, and thus commenced Mr. Blaikie's connection with the farmers of Norfolk, through their great patron, and it will be long ere that connection be forgotten by those upon the Holkham estate or who had the good fortune to know Mr. Blaikie. In 1815 the Earl of Chesterfield died, and new arrangements, consequent

on the young Earl becoming a Ward in Chancery, dissolving Mr. Blaikie's management of the estate, he was honoured by proposals from the then Duke of Bedford and Mr. Coke. He accepted those of the latter gentleman, but first requested and obtained permission to view the estates and management. In January, 1816, Mr. Blaikie visited Norfolk for the first time, and was engaged by Mr. Coke. The row culture of turnips seems to have been then almost unknown in Norfolk, except some drilled on the flat in Holkham park and adjoining farms; the greater part were sown broadcast in other districts, and were inferior.

As the culture of this root has had such vast influence on the improvement of Norfolk husbandry, the following historical facts regarding it will not be inappropriate.

Soon after the root had been brought over from Flanders, it was first cultivated, as a field crop, at Rainham by the first Marquis Townshend, and long before it had become diffused over England, was carried from Rainham to Roxburghshire in Scotland, where it was brought to perfection, and the improved system re-imported into Norfolk. The transitions are most curious and interesting. Eighty years ago a Mr. Dawson occupied the farm of Frogden, near Kelso, in Roxburghshire, and took a tour through England in search of agricultural information. In Norfolk he saw for the first time the cultivation of turnips, as a field crop, upon the Rainham estate. They were sown broadcast, and on his return he commenced their cul-

ture upon the same system on his own farm at Frogden. His success was at first but indifferent, arising from his labourers being unacquainted with the proper mode of thinning the plants, and from his soil being of too heavy a nature to allow them to grow rapidly from the seed. By degrees however Mr. Dawson thus overcame his difficulties:—He devised a method of drawing the soil into ridges, placing the manure in the centre of the earth, and with great ingenuity constructed a hand drill for depositing the seed on the top of the ridge. His neighbours, who had previously ridiculed his attempts, were astonished at his success. His new plan was speedily adopted and spread rapidly. Frogden being situated on the borders of Northumberland, the system was soon followed in that county, and transferred to various parts of England. From thence arose the denomination of the Northumberland-ridge system, a title to which the village of Frogden was much more justly entitled. Such is the origin of the present mode of cultivating the turnip on the ridge and drill system.

Mr. Dawson, on his visit to Norfolk, also observed, for the first time, the system of growing alternately white and green crops. This he also imported to Scotland and carried out on his own farm. It has been not only general in the district, but has not been departed from. It is, however, somewhat singular that between Mr. Dawson's visit and the time when Mr. Coke came to his estate the practice was discontinued, and the system of growing white crops in succession prevalent. The

alternate system, he however immediately restored. About the time Mr. Blaikie came to Holkham, the cultivation of mangel wurzel had been relinquished in consequence of some cows having died from being allowed to eat (too largely) of the tops. Mr. Blaikie succeeded in inducing Mr. Coke and his farm manager, Mr. Bulling, to give that root another trial, as well as to cultivate the entire root crops upon the ridge where the land was heavy, and to drill upon the flat where the land was light. Proper implements were provided, and in the summer of 1816, this mode of cultivation, aided by the rains which had fallen copiously, was exhibited in great perfection. As a natural consequence, the plan was universally adopted. If the merit of the ridge system be due to Mr. Dawson, that of drilling on the flat may be with justice ascribed to Mr. Blaikie while he resided at Bradby. To the subject of this memoir, the invention of several implements has been ascribed, but we have good authority for saying, that perhaps with one or two exceptions, the horse-hoe for instance, these have been mere suggestions, and perfected by others. This leads us to two anecdotes, which, while they are only other proofs of the generosity of THOMAS WILLIAM COKE, also serve to show the equally high minded conduct of Francis Blaikie.

It is to the Grubber they refer:—

At the Annual Sheep-shearing in 1817, the Judges awarded the first prize to this implement which they had seen at work in the Park, and on the third day, as was his custom, Mr. Coke distributed the prizes.

Mr. Blaikie was called upon in his turn to receive the prize awarded to him for the grubber. To the surprise of all he declined it, not considering himself honourably entitled to the award. He was of course asked to give an explanation of his reasons, which he did by saying that he had only suggested the improvement to Mr. Mann, Mr. Coke's head blacksmith, who had entertained and soon perfected it—that the implement was Mr. Mann's, but, as it was made at Mr. Coke's expense, he did not think it could be fairly brought into competition with those of other exhibitors who had manufactured their implements at their own cost and had brought them a great distance; but as Mr. Mann had displayed his ingenuity in constructing many useful implements, Mr. Blaikie requested Mr. Coke would confer on Mr. Mann some mark of his approbation. Mr. Coke, with that singleness of purpose which distinguished him, amid the plaudits of the noble and the skilful, directed Mr. Blaikie to provide a silver tankard with a suitable inscription for Mr. Mann.

The same characteristic integrity and humility were also shown by the subject of this memoir on a former occasion while at Bradby. The London Agricultural Society, then under the presidency of Sir John Sinclair, voted Mr. Blaikie a gold medal for a successful experiment carried on at Lord Chesterfield's expense, and by the Society's request. It was prepared, but declined, as Mr. Blaikie did not consider himself on that ground strictly entitled to the reward.

While residing with the late Lord Chesterfield and Mr. Coke, Mr. Blaikie wrote various practical treatises, at the suggestion of these Noblemen, on Woods and Plantations—on Smut in Wheat—on Mildew—on the Conversion of Arable Land into permanent Grass—on Hedges and Hedge Row Timber Trees—on Husbandry—Farm-yard Manure—on the Cultivation of Turnips—and Road Making. He was also the author of several letters in defence of Drilling, and inserted in the Farmers' Journal in the year 1818, besides other communications on subjects connected with agriculture.

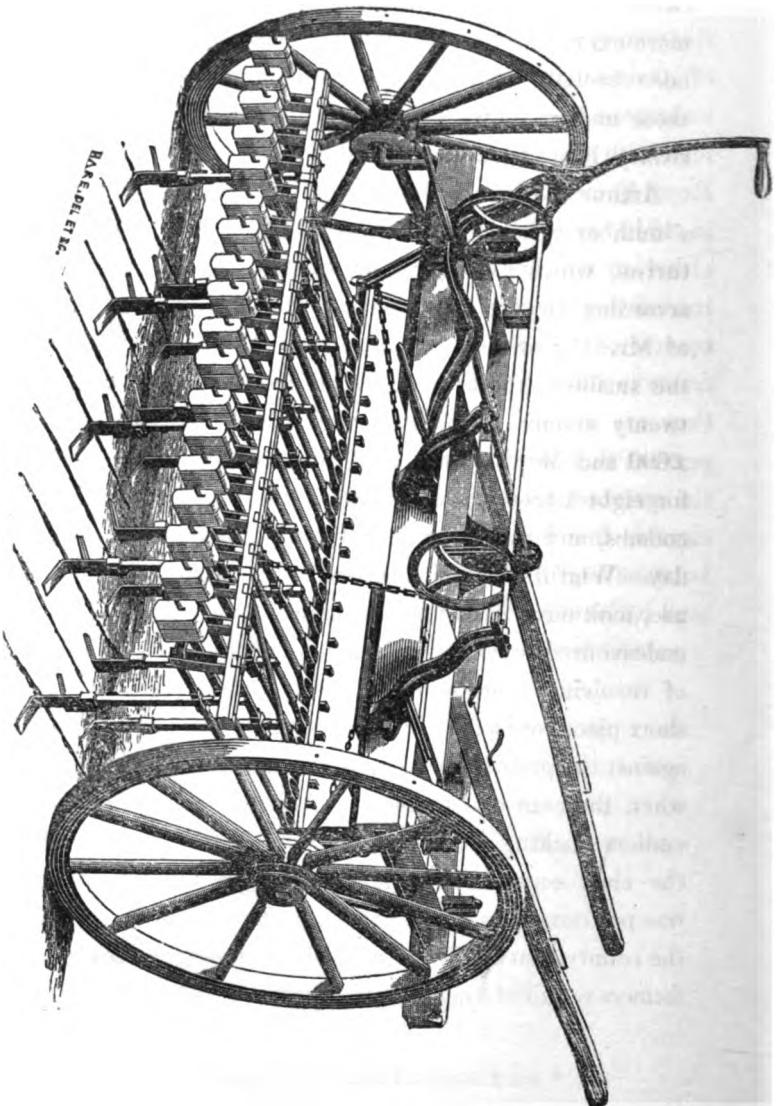
During the sixteen years Mr. Blaikie continued in the management of the Norfolk and other estates belonging to Mr. Coke, his exertions were continually given to further to the utmost in his power the husbandry at Holkham, and although the system had arrived at a great degree of maturity when he became attached to the estate, it did not deteriorate during his residence; for under the direction of its noble master, aided by the vigilant attention of Mr. Blaikie, supported by the practical skill of Mr. John Bulling, so long farming steward, Holkham maintained the superiority which gained for its great owner the honourable title of the first of British agriculturists. In the year 1832 Mr. Blaikie retired to pass the remainder of his life at St. Helens, Melrose, where he still resides, honoured by all who had the pleasure of his friendship, passing his days in the adornment of his own estate, and in endeavouring to be useful to those around him. Ere

he left the scene of what must be his many proud recollections, the tenantry of the estate invited him to an entertainment, and presented him with a handsome silver tea service, recording their attachment and their opinion of his character in the following terms :—
“ That during the sixteen years he has presided over the Holkham property he has not in any degree compromised, but on the contrary has greatly contributed to strengthen that noble sentiment, which has ever been the favourite motto of its worthy and liberal possessor—

“ A GOOD UNDERSTANDING BETWEEN LANDLORD AND TENANT”—

While his revered master bore his testimony upon a massive silver inkstand, thus inscribed—“ An inconsiderable tribute of sincere regard and gratitude for sixteen years' service, rendered invaluable by the union of unrivalled ability with incorruptible integrity.” And on the reverse—“ Presented by Thomas William Coke to Francis Blaikie.—May 6th, 1832.”

The last and perhaps the most perfect implement of its kind which has been brought forward and used in this county is Garrett's HORSE-HOE; and no better proof of its excellence can be given than the fact that it has undergone the ordeal of an examination by practical men with success, at the Liverpool, Bristol, and Derby Royal Society Meetings, and at those of East Norfolk, in 1842, and West Norfolk, in 1843. It is suited either to corn or root crops; can be diminished or increased in size, the axle and wheels expanded or contracted. The shafts can be moved to any part of the frame to suit the work; each hoe works independently; they are pressed by different weights at each end to prevent their working too deep, and can be steered with the greatest nicety. For root crops an extra semi-circular hoe is attached to a separate lever, working between and before the inverted hoes. Thus all the land is cleaned. This is the implement.



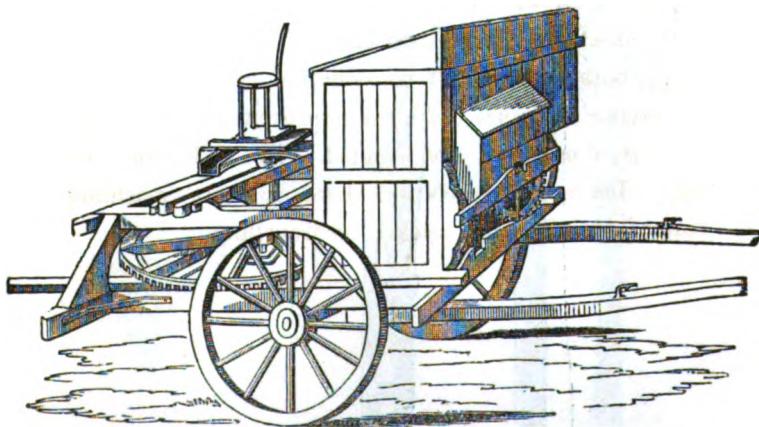
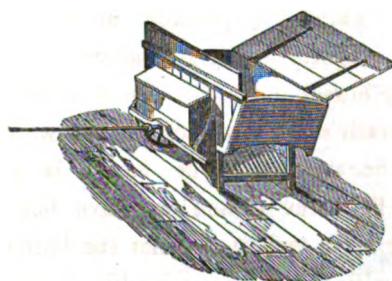
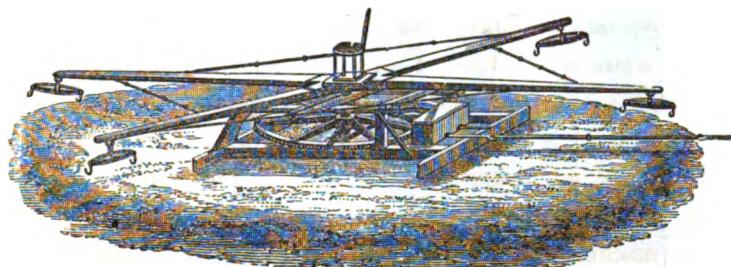
The THRASHING MACHINE has probably been the cause of more thought, more ingenuity, more care, and more expenditure than any other implement, and it has been brought to an excellence highly honourable to those makers by whose perseverance, skill, and friendly rivalry, it has been thus far perfected.

Arthur Young, in his Report, gives a statement of a number of machines by some of the best Agriculturists, which varying in prices and quantity thrashed according to their manual and horse power. That of Mr. Farrow, of Shipdham, by Wigful, of Lynn, the smallest, for four, five, or six horses, thrashing twenty coomb of wheat; while Mr. Coke's, costing £600 and Mr. Styleman's, of Snettisham, costing £300 for eight horses each—thrashed, the former sixty-four coombs, and the latter, eighty-four coombs of wheat a day. Wigful, who made several of the machines then in use, took out a patent for an improvement, in which he endeavoured to combine the stroke of the flail with that of revolving beaters, which were loosely attached by short pieces of chain; these struck with increased power against the grain according to the rate of velocity, and when the corn was thrashed out it was carried by an endless shaking web towards the blast of a fan and the chaff separated. * At this period the thrashing was performed by the flail through the principal parts of the county. In the Western Division, however, the large farmers required a more rapid as well as more economical

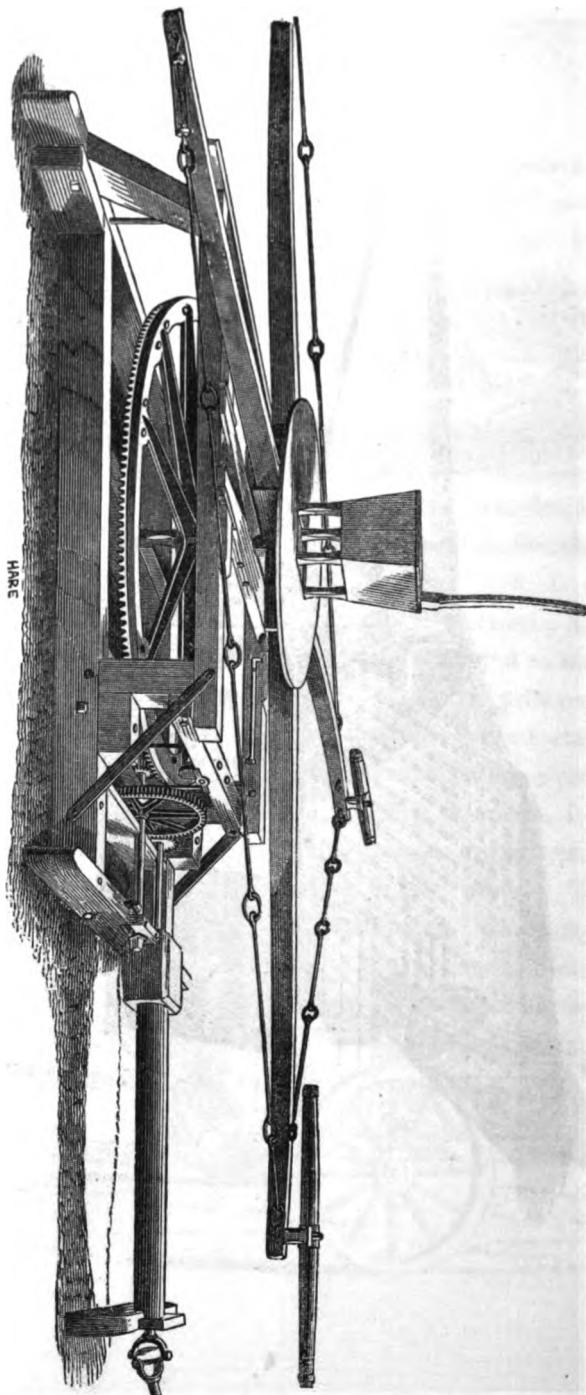
* See Ransome's Implements of Agriculture.

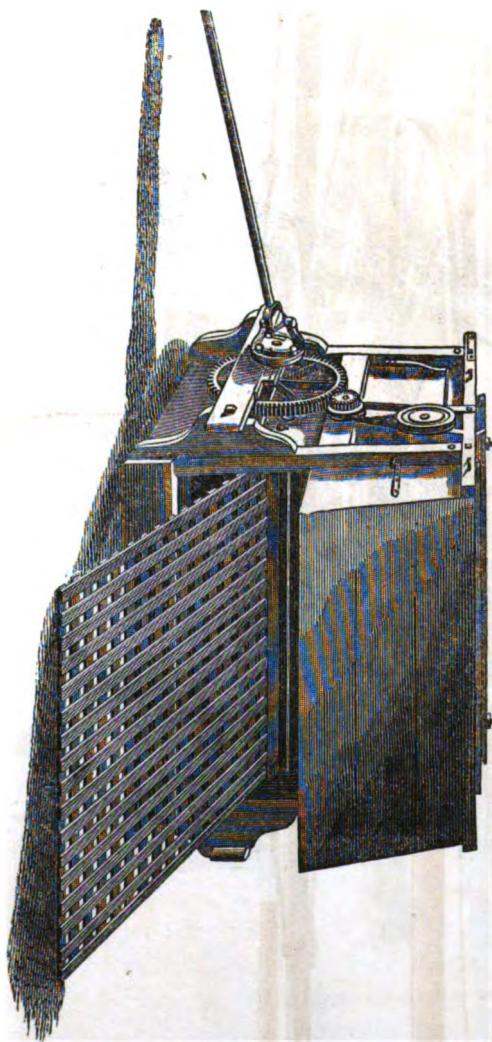
mode, and thrashing machines consequently increased. On large farms sometimes are seen two, and almost always one machine fixed at the barn doors. It is the universal custom in this district to thrash the barley as well as the wheat by the same machine, although it is often said that by this practice the barley is nibbed and unsuited for malting. This complaint, is to be avoided by attention and care in fixing the machine. In the Eastern district, in consequence probably of the farms being small, the more frequent practice is to employ a portable machine, which is generally the property of the person who works it, the farmer finding horses and men. These machines, however, only thrash the wheat from the straw, at so much per coomb or quarter. The barley is principally thrashed by flail; the reason we have before stated having either more weight, or that the barley is really injured for malting, by these portable thrashers, from insufficient attention. Another reason urged against these machines is the breaking of the straw. This arises both from faulty construction as well as from negligence; because, with the improvements of Messrs. Garrett, these evils are avoided. The following cuts show Messrs. Ransome's and Messrs. Garrett's machines ready for working and packed for travelling.

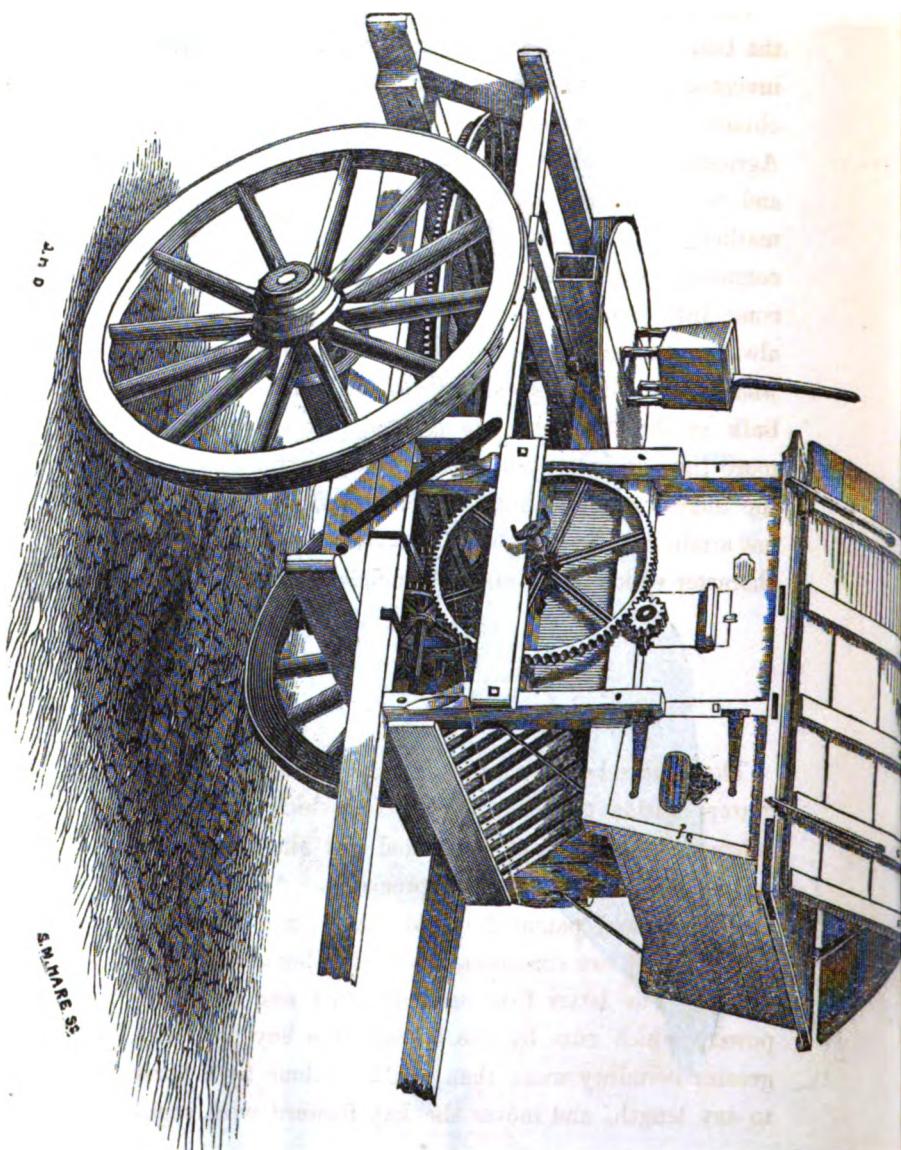
RANSOME'S.



GARRETT'S.





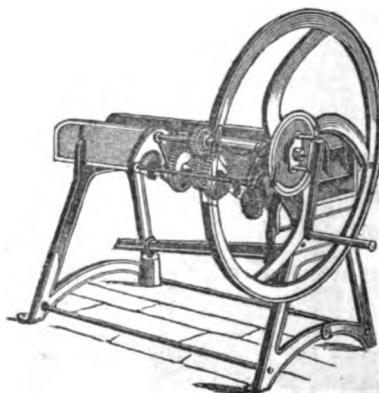


Mr. T. F. SALTER, of Attleborough, the eldest son of the Land Agent and Agriculturist of that name, in 1839 invented a Dressing and Winnowing Machine, which obtained the silver medal at the first meeting of the Royal Agricultural Society. It has been highly spoken of, and is particularly adapted for making up corn for market, to a higher degree of excellence than is commonly the custom. It is not perhaps so likely to come into general use, but it must nevertheless be always admitted to be an ingenious, though a somewhat more complicated instrument, than the great bulk of the Agriculturists require. It may demand more time and attention than will be compensated by the increased price obtained; but we doubt if it does not attain for the samples of the farmer who uses it, a character which in the end is beneficial.

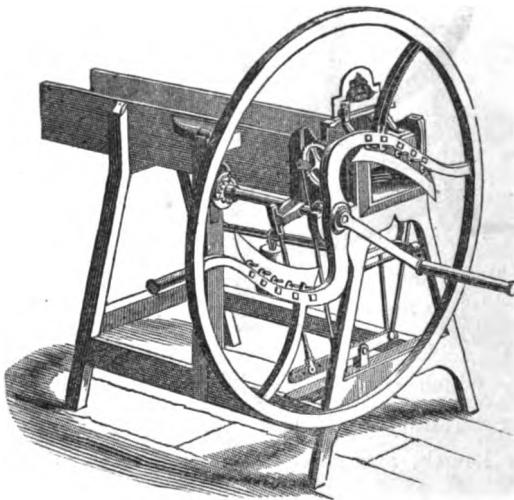
There have been a variety of improvements in chaff-cutters within the last few years, which have both lessened labour, saved time, and cut the chaff into certain lengths with greater precision. Among these are Ransome's, patented by Mr. May, and Mr. Garrett's. They are constructed both for horse and hand power. The latter firm have invented one for hand-power, which cuts by the labour of a boy and with greater certainty more than could be done by a horse to any length, and moves the hay forward with regu-

larity for the knives. We saw one at work in the early part of this year at Mr. Beck's, of Mileham, and that agriculturist spoke in the highest terms of the implement.

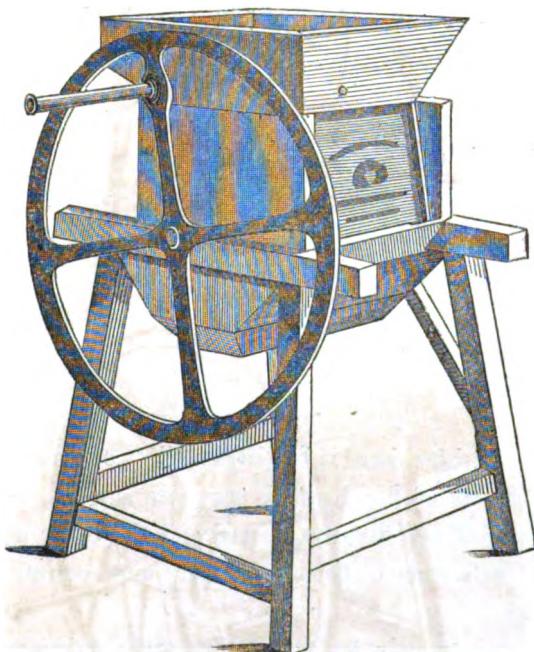
RANSOME'S.



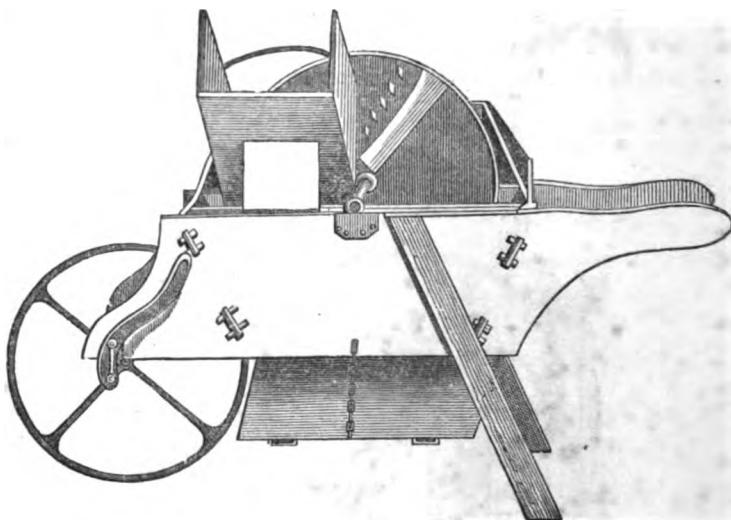
GARRETT'S.



We have elsewhere adverted to the benefit Gardiner's Turnip Cutter has conferred upon the farmer, in economizing the crop, and consequently increasing his power to produce a larger quantity of food from the same space. Its utility is so universally acknowledged that the imlément requires a place here.



Messrs. Ransome have invented a barrow turnip-cutter, that from its portability must be very useful. The representation requires no description.



In Crushers there is but little variety of construction. The rollers of the Norfolk are both smooth, those of the Suffolk one slightly grooved and the other smooth; they each receive from a hopper and deliver by a trough.

It can scarcely be expected, neither is it necessary, that a description should be given of every implement, however superior, which is used in the cultivation of the county, at the same time it is right that in a Report which aims, however imperfectly and humbly,



to give a just description of its cultivation at any particular moment, in order that its position as an agricultural county may be hereafter known, that representations of the implements most generally employed should be introduced.

Those of a cheaper, though of a useful description, to which I have referred, are from the foundries of Holmes, Sparks, Francis and Co. and other makers in Norwich and Norfolk. They will principally be found in the accompanying lithographic plate.

The carts, hermaphrodites, and waggons in ordinary use have undergone little or no alteration. The former are the usual cumbrous tumrels for general carting, and the latter are the four-wheel waggons which have been adopted from time immemorial. When the farm is far distant from market, large, roomy, and double-breasted spring waggons of a somewhat light construction are employed in many cases. They carry a much heavier and more bulky load, with the same number of horses, but with less wear and tear to the animals.

One-horse carts are used upon some farms, although the number is very limited. They would probably be more common, could the old carts and waggons be disposed of without incurring much loss. As the existing stock diminishes it will probably be replaced by those of more convenient structure.

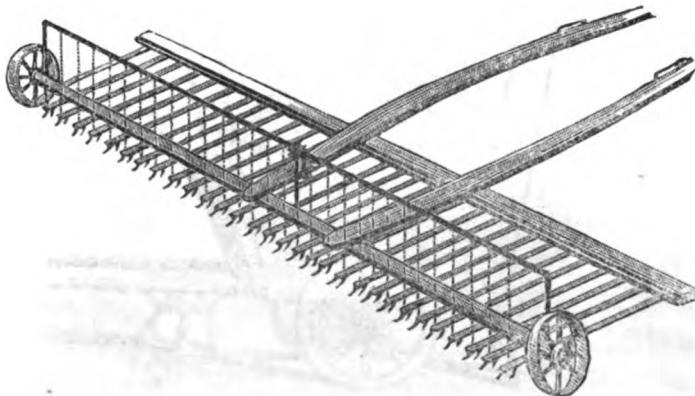
Among the novel improvements which appeared to the writer worthy record, is a stack-stage upon the farm of Mr. Hudson, at Castleacre; a lever seed harrow upon Mr. W. Beck's, at Mileham; a two-horse roll on

Mr. Gower's occupation at Dilham; a harvest waggon belonging to Mr. W. Rising, Somerton; a skim coulter upon Mr. H. Overman's, of Weasenham; and a corn gatherer by Mr. Wright, of Buxton.

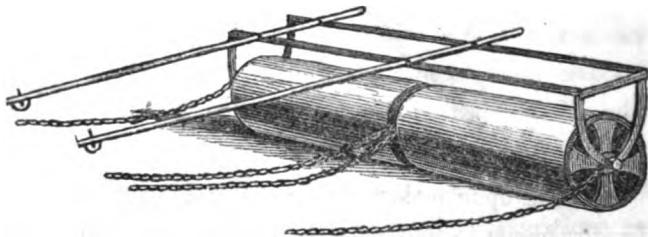
The **STACK STAGE** is simple in structure, useful, economical, and convenient. It overcomes the difficulty of removal, which attends almost all other kinds. When fixed on the cart it can be removed with little trouble and rapidity to any stack; while the arrangement for saving the dropped corn will much more than repay the expense of its construction in one harvest. It is well worthy adoption by all who are admirers of neatness, order, regularity, and dispatch.



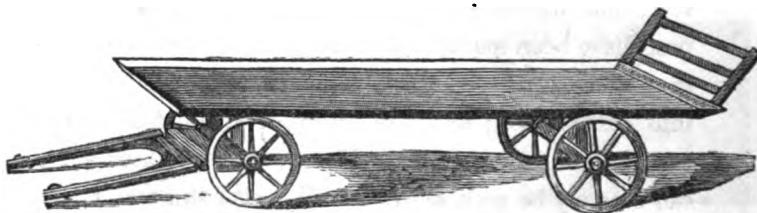
The **LEVER SEED HARROW** is light and ingenious, and performs its work with a certainty and regularity that is most advantageous. It consists of an axle on wheels to which is fixed a pair of shafts with a cross bar of an equal length with the axle, from ten to twelve feet. Under the cross bar is a rod of iron, which passes through one end of a number of light wooden levers, while the other is suspended by small chains to another bar of iron; so that the teeth, which are curved backwards, are sufficiently near to disturb the surface as they pass over it. The bar revolves, and raises the teeth from the ground, keeping them in any position by a cog wheel catch. The effect of this instrument is, that the small seeds are covered lightly with soil, without disturbing the barley seed in its germination; while the lightness of its construction allows of its being drawn by a more active description of horse than is usually employed. The cost is from £2. 2s. to £2. 10s.



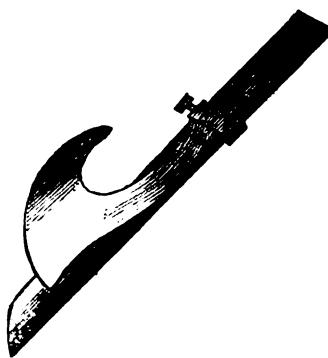
The **TWO-HORSE IRON ROLL** is drawn from the ends and centre of the axle, while the shafts and frame are merely required for its suspension. The advantage here is that instead of the weight being on the horse's back, the shafts bear upon the animal with no more power than their own weight; and the usual uneven chucking motion is avoided, the labour is greatly diminished by the regular draught which is obtained immediately from the axle.



The **HARVEST WAGGON** is light, wider than common, carries a larger quantity, with a less number of horses, and can turn in its own length. It is also well adapted for carrying hurdles on large light-land farms.



A new SKIM COULTER has been found to do its work capitally, when it is properly set. It cuts the flag very clean, and after ploughing the olland, there is no appearance of flag upon the surface.

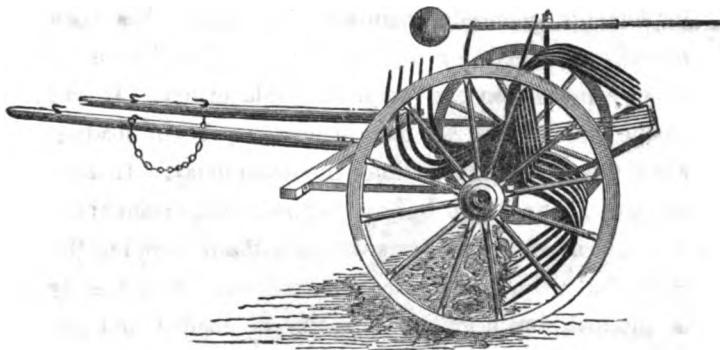


The call upon makers of agricultural implements for improvements in those in general use, and for the construction of new ones to facilitate the operations of the field, have occasioned numerous machines to be introduced, which are now worked by horses, where formerly nothing but hand-labour was thought of.

This observation is particularly applicable to the gathering of mown corn for pitching, during the harvest; and although many horse-machines for this purpose have been made, and many others suggested, yet, from some cause or other, none of them have come into general use; and even in the counties of Norfolk and Suffolk, where such machines are most wanted, one can scarcely be seen at work. Whether this may have arisen from defects in the implement itself, or from

any other cause, the fact is, that however much they may have been wanted, they have not hitherto been introduced with that success which well-constructed implements generally maintain. A patent has been recently obtained for a Corn Gatherer, which is of novel construction and unquestionable utility. It will enable a company of harvest-men to begin loading when the corn is dry, without the usual delay. It saves manual labour in the busiest and most important time, not only in gathering up swathes without stopping the horse, but the corn being compressed, may more readily be pitched, and a greater quantity be loaded and got into a smaller space than if raked together in the usual way. This gatherer collects one swathe at a time, and has the advantage of leaving its load at the will of the attendant, without being lifted up. One of three rows of tines alternately begins to gather the swathe as soon as the previous row has finished its heap, the size of which may be regulated as required for one or two forks full. The novelty in the construction embraces a most important principle, and gives it a most decided advantage in its work; the centre round which the tines revolve is very near the centre of the wheels, by which the rows of tines will conform to any inequality of ground, and neither up-hill nor down-hill makes any difference. The method by which the corn is disengaged from the gathering tines and a fresh row of tines brought into work, is simple and effective, and both these operations are performed by bearing down a single lever and without slackening the speed of the

horse. It is the invention of Mr. Arthur Biddell, of Playford, and has been brought out by Messrs. Ransome.



The work performed by this machine is done in a superior manner, and a boy to lead the horse and a man with the gatherer, will do the work of six or eight pair of hands with rakes.

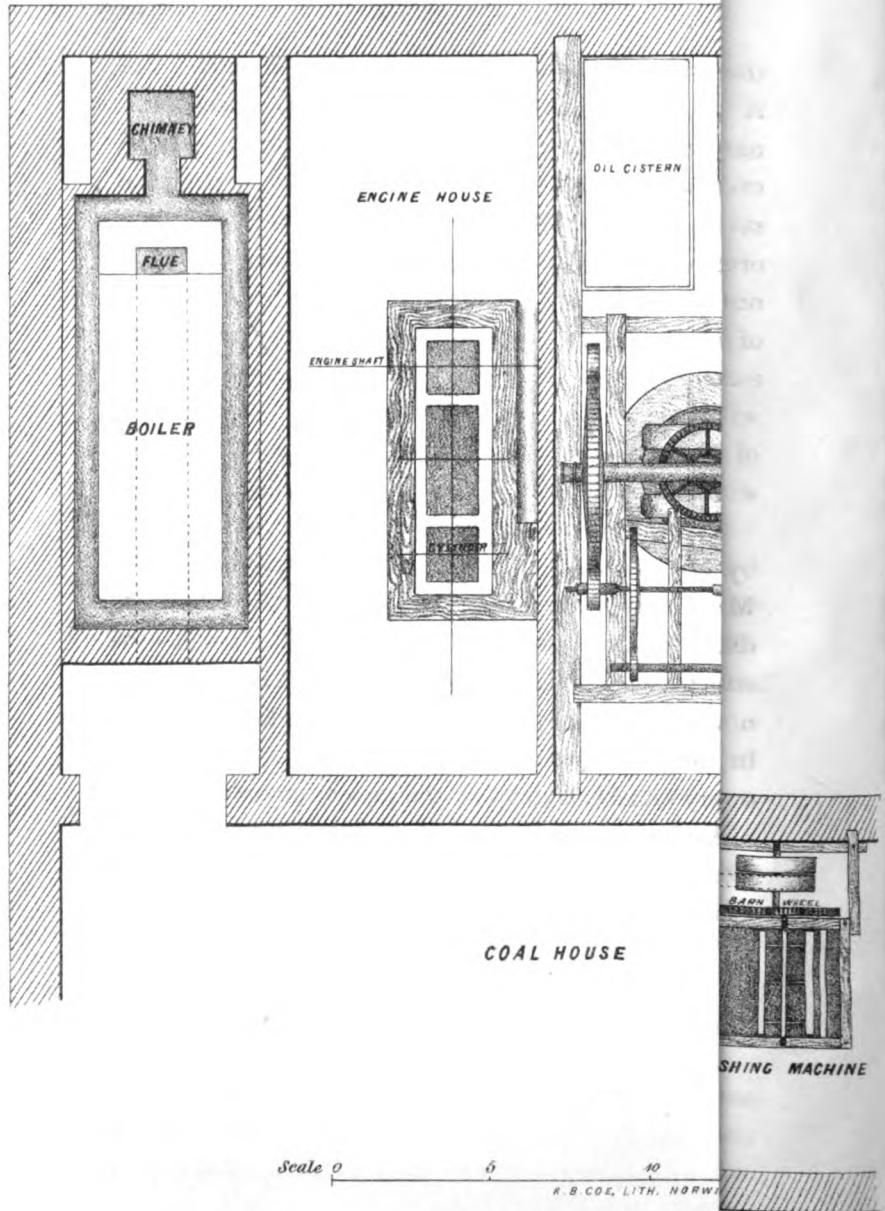
Mr. WRIGHT, of Buxton, one of the Society of Friends, has invented a similar implement which deserves notice. It is drawn by a horse, to gather hay or corn on the swathe. It collects two swathes at a time, and with a lad, last harvest, gathered thirty-seven waggon loads in five hours and twenty minutes, in a workman-like manner. The crop was a heavy one. The machine was made by Stephen Goodwin, Lammas, Norfolk. The boy sits on the seat and works two treadles, making the rakes to revolve and take up the hay or corn, which they deposit at regular distances. There is a chain which communicates from the treadle to the bar, which causes the revolution. A rod

of iron, which, when the rakes are not required to work, keeps them in a horizontal position. The cost was £10.



STEAM has lately been brought as an auxiliary by its adaptation not only to the threshing machine, but other purposes, and will probably produce a still further advance in agricultural mechanics.

At Castleacre, Mr. Hudson has erected an engine for threshing and for the manufacture of oil cake for consumption on the farm. To this are attached two pairs of flour stones, linseed crushers, and a mill for crushing beans, peas, &c. This engine works the threshing or chaff-engine regularly, and does its work well and cleanly, with a saving in time and of grain. The accompanying plate is a ground plan of the barn which has been adapted to the purpose, and will exhibit the arrangement of the machine, which works comparatively with very little noise. Such a machine can alone be suited to the largest farms, and where



there is a great consumption of artificial food. But it yet remains to be proved whether, under ordinary circumstances, it will repay the outlay. At all events it presents a new era in the agricultural statistics of Norfolk. At Rudham, where it had been erected upon a farm a year or two previously, it could not be continually employed. The success and profit of all machinery depends upon its employment on an extended scale. If it can be kept in constant work it will repay its cost by saving labour, and in the reduction of the number of horses and other operations connected with the farm. [See the accompanying plate.]

A portable steam-engine has also been manufactured by Mr. Thorold, of the Phoenix Foundry, Norwich, for Mr. Tingay, of Scoulton, which has thrashed his corn, drawn his trefoil seeds, and cut the chaff. It is so constructed as to avoid any danger, and with improvements now in progress by the engineer, it bids fair to become in time a saving of horse labour. It might be made a very valuable adjunct to the present power of clearing a district of marshes on any sudden emergency, and prove the pioneer to the more general drainage by steam.

GRAZING.

BEASTS are fattened principally upon swedes, oil cake, and cut hay, but bean-meal and barley-meal are also added to change the food; the quantity of cake varying from four to ten pounds a day per beast. They are principally fed in warm yet airy yards, some being put into stalls upon most large farms; and although it is universally admitted that warmth conduces to the growth of fat, still such are the large quantities grazed, it would be almost impossible to stall-feed all, not only from the increased expense of buildings, but also in attendance. Sheep are almost entirely fattened in the open fields, about half a pound per sheep of oil cake, with sliced swedes and cut hay, sometimes peas and meal being their food.

Within the last three years a system has been introduced, and rather widely adopted, which has excited considerable interest. Mr. WARNEs, an agriculturist at Tringham, in consequence of the high price of oil cake, made a compound consisting of crushed barley and linseed, with which he fed some beasts, and their progress was so rapid and successful, that he published his

plan. It was to boil water in a copper, and when boiling to pour into it a quantity of crushed barley and linseed, continuing to boil for a very few minutes, and then extinguishing the fire, leave it to cool. The relative quantities were 168 gallons of water, 63 pounds of crushed barley, and 21 pounds of linseed. The heat started the oil from the seed, and the flour of the barley became impregnated with the oil and partially cooked. This plan underwent a trial at the North Walsham Farmers' Club, and a challenge was given to exhibit a certain number of beasts fed in the usual way, against others fed on the compound. A public meeting was held at North Walsham, under the presidency of the HON. W. R. Rous, of Worstead, the president of the Society, when some beasts fattened on compound were killed, and its capability to fatten well satisfactorily ascertained. There were, however, a very large body of farmers who still upheld the superiority of the oil cake.

Mr. POSTLE, of Smallburgh, a gentleman of considerable landed property, and no less practical skill as an agriculturist, undertook to make the trial, and a number of short-horn beasts were divided as equally as possible by two gentlemen of acknowledged judgment, averse to the new system. The two lots of beasts were within twelve stone of each other on being weighed previously to being put into separate yards for feeding. This difference arose from one of the bullocks being so large that it could not be matched by another of the lot. They were fed in separate yards, and the food weighed daily. The following was the result:—

COMPOUND VERSUS OIL CAKE.

Statement of Consumption and Expense of M^r. POIRIE'S Sheep-horn Beasts, fed on Native Compoind and Foreign Oil Cake.
The Twelve Beasts were placed in the Yard, and fed on Turnips from Dec^r. 15th but the 20th to December 20th, to the 2nd of January, on Swede Turnine but these Turnins were not weighed.

<u>Week ending the 9th of January—Weight of Turnips</u>	<u>1851 stones 8 lbs.</u>
16th " "	1279 " 5
23rd " "	638 " 8
— " "	603 " 10

COMPOUND BEASTS.

SUMMARY.

14 cobs, 2 <i>b</i> bush. of Peas, at 1 <i>lb</i> . 6 <i>d</i> . per cimb.	£10 12 0 <i>s</i>	Wt. 18 <i>st</i> 3 <i>lb</i> s.
4 Linseed, at 2 <i>lb</i> .	5 17 11 <i>s</i>	
2 <i>b</i> Linseed, at 6 " "	5 17 11 <i>s</i>	
Peas grinding	0 14 7 <i>s</i>	
Linen do.	0 9 3	
Making Compound	1 0 0	
3 <i>b</i> hundred Thorns, at 5 <i>s</i> . per hundred	0 17 6	
Deduct for 3 <i>b</i> bush. of Wood Ashes } 0 5 3	£19 11 4 <i>s</i>	
at 1 <i>s</i> . 6 <i>d</i> . per bush.	£19 6 1 <i>s</i>	
	£22 8 7 <i>s</i>	

Balance in favour of Compound

The following Beasts are placed on the respective lines as they were divided by Mr. Wills, of Sco Ruston, and Mr. Heath, of Ludham; great attention being paid at the time to apportion for Fallowing, and it was determined by lot which should be fed on Compound.

COMPOUND BEASTS.

No	Live Weight when Selected	Dead Weight when Fat June 17th.	Live Weight when Selected			Live Weight when Fat June 17th.			Live Weight when Selected		
			st.	lbs.	st. lbs.	st.	lbs.	st. lbs.	st.	lbs.	st. lbs.
No. 1, Weight 108	128	76 7	Loose Fat	11 1	Hide 7 1	No. 1, Weight 102	120	66 4	Loose Fat	8 2	Hide 6 3
2 " 98	117	71 2	"	8 5	" 6 9	94	113	62 6	"	8 0	" 5 12
3 " 100	119	70 4	"	9 4	" 6 3	98	121	67 0	"	9 7	" 6 4
4 " 100	120	71 8	"	9 7	" 6 9	96	116	60 4	"	9 5	" 6 6
5 " 100	125	72 8	"	8 8	" 6 5	100	118	66 3	"	8 10	" 6 10
6 " 96	116	70 6	"	8 12	" 6 7	6	117	65 9	"	7 10	" 6 4
	725	482 7		55 9		39 6		590	387 12		37 11
	39	55 9 loose fat							51 7 loose fat		
		6 hides							37 11 hides		

Stones £27 8 compound fed
Do. 477 2 oil cake fed

Stones 50 6 differ. in favour of Compound.

Stones £77 2

[N.B.—The respective weights are taken at 14 lbs. to the stone.

SUMMARY.

January 2, 1848—One ton of Dieppe Linseed Cake	£8 3 0
March 17,	Ditto
April 28,	16 cwt. 1 stone, 9lbs. at £7. 13 <i>s</i> . per ton
	: 7 15 6
	: 5 16 3

£21 14 9

OIL CAKE BEASTS.

No	Live Weight when Selected	Dead Weight when Fat June 17th.	Live Weight when Selected			Live Weight when Fat June 17th.			Live Weight when Selected		
			st.	lbs.	st. lbs.	st.	lbs.	st. lbs.	st.	lbs.	st. lbs.
No. 1, Weight 108	128	76 7	Loose Fat	11 1	Hide 7 1	No. 1, Weight 102	120	66 4	Loose Fat	8 2	Hide 6 3
2 " 98	117	71 2	"	8 5	" 6 9	94	113	62 6	"	8 0	" 5 12
3 " 100	119	70 4	"	9 4	" 6 3	98	121	67 0	"	9 7	" 6 4
4 " 100	120	71 8	"	9 7	" 6 9	96	116	60 4	"	9 5	" 6 6
5 " 100	125	72 8	"	8 8	" 6 5	100	118	66 3	"	8 10	" 6 10
6 " 96	116	70 6	"	8 12	" 6 7	6	117	65 9	"	7 10	" 6 4
	725	482 7		55 9		39 6		590	387 12		37 11
	39	55 9 loose fat							51 7 loose fat		
		6 hides							37 11 hides		

Mr. Postle is so satisfied with the result, that he continues the system. It has been followed by many farmers in the North-eastern part of the county. The doubt which now exists, rests upon the advantage of growing the seed, a problem which still remains to be solved ; and at the time this report is closing a discussion is going on, as well as to the cost of production as to profit, in comparison with wheat or turnips. Crops from an acre to five acres have been grown in various parts of the county ; but setting aside the question whether the growth be not prohibited by the generality of leases, the point of its successful continuation is rendered by conflicting testimony very problematical.

DRAINING.

DRAINING is one of the most valuable discoveries in agriculture, and a practice, which, though introduced to a certain extent upon all farms, and in some districts of the county for the last fifty or sixty years, has yet much to accomplish before the heavy lands of Norfolk will be brought into a state of cultivation co-equal with the less tenacious soils. A very decided opinion has already been expressed in another portion of this report, that this advance can alone be hoped either from the grant of leases, or by the land-owners bearing a portion of the cost of improvements of such vital importance to their property in the present and future state of agriculture. No man will sow that which he may not be permitted to reap. Security of tenure till production repays expenditure is the one thing necessary. On no other condition can desirable improvements be anticipated. A case in point will be conclusive. A tenant in East Norfolk occupied a farm composed of a heavy clay soil. He was enterprising, intelligent, energetic. He set to work to improve this occupation, which he held under an agreement that could only remain in force so long as

the present proprietor lived—his being only a life interest. The tenant drained to a very large extent with tiles, in the best manner. His improved system and liberal outlay brought him first-rate crops, where turnips never grew before, and the farm was in a course of tillage most creditable to himself, most beneficial to the property. The landlord being an aged person, the farmer applied for a lease, which was promised so long as the existing proprietor had the power to grant. But the heir refused to join in the agreement, because the farm might then obtain a higher rent, and the improvement ceased. Can it therefore be expected with such examples, to say nothing of the various unexpected contingencies which environ and confound the best expectations, can it be expected that improvements, the most expensive a tenant can undertake, will make a progress so desirable to the public, the proprietor, and the tenant? A nation suffers from a want of a supply of food equal to her people's demand. There are all the elements of production at hand, capital, skill, industry; but a misunderstanding of the true interests involved, and in some cases perhaps a perversion of right, prevents their being called into action for the general good. We shall give a contrary example. A tenant of a large occupation upon Lord Leicester's estate, took a farm under a long lease; he commenced by throwing down the old fences, because they were irregular, laid out his farm afresh, and raising miles of new. He thoroughly drained the whole with tiles to an enormous extent in the best manner; the lease has been renewed once if not twice, and there is

no heavy-land farm under a finer tillage, or producing more abundant crops.

In under-draining cold wet lands, making the eye of the drain secure and durable is a point of the greatest importance. One of the best modes of effecting this, is by embedding tiles in clay worked up to a fair consistency, for not less than five yards in the leading drain, resting the lower tile at the eye upon a large stone fixed in the earth under it, so that the water when issuing from the drain falls upon it. The leading drain is made entirely with tiles. The other drains, both as to depth and distance, must be regulated by circumstances. On strong soils they may be placed at from six to eight yards apart, and not less than thirty inches deep—filled up with stones—at the rate of from three to four bushels a rod, a larger quantity being used where it meets the leader.

On springy soils, which have generally a sub-stratum of black sand, the drains are dug from ten to fourteen yards apart, and from thirty-six to forty inches in depth, the bottom being from three to four inches wide; these are filled up at the rate of from six to eight bushels of stones a rod. Where tiles are used, they are in general covered with a few stones, and ling or straw twisted into a band.

The next best method pursued on stiff clay land is to dig the drains not more than six yards apart, and fill them up with alder, willow, or rushes. The two former being preferred, as their smooth surface is less likely to disturb the sides of the drain, and from their nature

they remain longer without decaying. The bushes are then covered with ling, furze, or straw, and by peat-earth cut into long wedges, according to the size of the drains into which they are dropped, within six inches of the bottom. In draining, the drains are drawn as much across the land as practicable, consistently with a not too rapid fall of the water. Wet springy land is best drained in the summer when the springs are low. The following is the expense of draining an acre under these systems :—

Draining with Stones, &c.

	£. s. d.
200 tiles for leading drain 10 to 12 rods	0 8 0
20 loads of stone for 5 score, at 1s. ...	1 0 0
Digging 5 score drains, at 5s. a score ...	1 5 0
Laying the eye, &c.	0 1 0
<hr/>	
	2 14 0
<hr/>	

Expense of draining about three acres of land with tiles, wood, and ling; drains $16\frac{1}{2}$ feet apart—

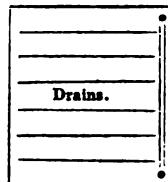
Score. Rods.	£. s. d.
17 13 at 4s. 6d. including eyes, &c.	4 0 0
2½ hundred of alder wood, at 12s.	1 7 0
¾ of a load of ling	0 16 0
275 tiles	0 11 0
<hr/>	
	6 14 0
<hr/>	

About 8s. 9d. per score.

Another system is the following :—

Suppose a piece of land, thus—the falls being formed at . draw out the furrows six yards wide, then dig them with the draining spade twelve inches long and six wide at the top, decreasing to five inches—then dig with a five inch spade, and lastly, with one three and a half at the top and decreasing towards the bottom to the size of the tile. The drain will be then a yard in depth. Lay down the tile thus U because the curved bottom will offer a less surface for the settlement of silth, and the drain will be kept clear by the water passing with more force. Cover up the tile with turf from hedge rows, as the water percolates better through these than clay, and finally fill up with earth. By this mode every drain serves itself independently of another, and thus any stoppage can be at once ascertained and rectified, which is not the case under the system of bush-draining into a leader.

“ The effect of this system of drainage upon our neighbourhood,” says a highly intelligent occupier, “ is that turnips are now generally grown, where thirty years ago there was certainly not a Swede and but very few whites. The effect upon the population is that they are better employed; indeed, of good labourers there is not a sufficiency, and there would be a still greater want of them if the lease-system were adopted.” Nothing can be more conclusive than this testimony of an occupier of long standing and great means of observation.



Another tenant, whose family has occupied the same farm above a century, which is a strong wet soil, says—

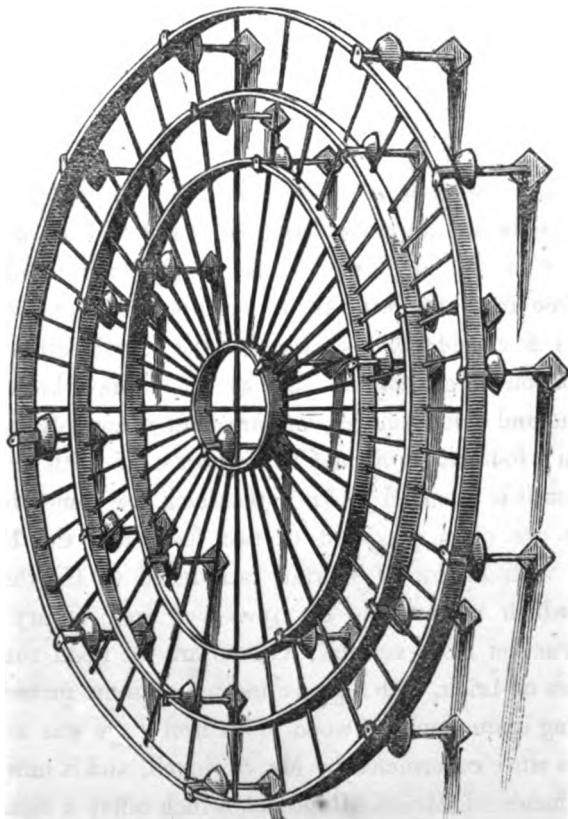
“ With regard to under-drains, I make them about thirty-six inches deep. At the top they are about seven inches wide, at the bottom one inch and three-eighths. The soil is taken out with three different sized spades; the top one the common spade; the middle one five inches wide at the top, and two inches three-eighths at the bottom, and fourteen inches long; the lower spade two inches three-eighths wide at the top, and one inch three-eighths at the bottom, and fourteen inches long. In using the middle and lowest spade (particularly the lowest), it is very necessary to have a good workman, as it is essential the sides of the lower part of the drain should be well cut with the spade before the soil is forced out. After which, all the loose soil, &c. is taken out with a scoop, made a proper size, to follow each spade. With regard to the filling up, I should at all times prefer the tile or pipe, and have no doubt but that they are the cheapest in the long run, but where the landlord does not find the material or a share of the expense, the cheapest and best plan I consider to be the following :—Fill the lower part of the drain with alder or willow; they are preferable to any other wood; they will last longer in the water, and being smooth are much less liable to disturb the sides of the drain, which is of the greatest consequence. I prefer as small a quantity as possible, for when a drain is filled too full of wood, I consider when the wood becomes decayed, it is much more liable to choke up from being broken

in by a horse's foot, set directly on it, or any other accident. On the alder or willow I put a portion of young green furze or ling, tight upon it, sufficient to prevent the soil running in. After which it is filled with the soil, and then pressed down with one wheel of a cart, loaded to any weight that may be thought necessary, which is always best done when it is quite dry. In the main drain, and at all the eyes, viz. at the commencement of each drain for about fourteen yards, I put a portion of stones between the wood and furze. In the first instance I ploughed them out with a common plough, as that saves a great portion of labour. I pay sixpence per rod (seven yards to the rod) for the above method. I consider under-draining to be the very best piece of husbandry that can be done on cold, wet, or springy land, for without it you can grow neither quantity nor quality of corn. You may grow straw, but not corn. I always prefer draining wet springy meadows in the summer, when the springs are low."

STACKING AND THATCHING.

STACKS are now usually placed in the fields, not only because the grain has been found to keep much better in the air, but because, if properly staged, it is free from the attacks of vermin—and because it saves a considerable outlay in the construction of barns on large farms. Stacks are formed both of round and oblong shapes, and are most commonly built upon a foundation of faggots of thorns, &c. with straw. When it is intended to keep the stack for some time, they are often plastered to two feet from the bottom with a coat of mortar, introduced at Holkham, by which means they are preserved from injury or destruction from vermin. Others are set upon round pillars of brick, with a projecting top of some material, resting upon planks of wood. An iron stage was some years since constructed by Mr. Springall, and is now in the hands of Messrs. Ransome, which offers a certain safeguard, is of sufficient strength, and can be taken to pieces and stored without much comparative trouble;

and while it gives these and other advantages, is so light and slight in its appearance as not to render it unornamental to the park.



Stacks of all descriptions are usually thatched with straw, except in the neighbourhood of the coarse marshes, where rushes and fodder are used. The thatch is usually secured by either a loose tarred line, or by a band of straw fastened down with "broaches;" pieces of riven ash twisted in the centre and doubled, forming a secure fastening to the eaves. The upper part of the stack is sometimes secured in a similar manner.

FARM FENCES.

NOTHING better contributes to the neat, orderly, comfortable, and gratifying appearance of a farm, than durable, well grown and well treated white-thorn fences, and to obtain this point great attention is necessary not only in rearing new and their after treatment, but in the management of the old. The best system is that recommended many years since by Mr. Blaikie in his perspicuous little pamphlet on the "Management of Hedges," and to whose recommendations and suggestions the improvements that have taken place are to be attributed, although not followed to the extent that might have been expected. In new fences, after the bank is raised, the layer or quickset is placed horizontally in the side in such a point in the bank as while excessive drought is excluded there is not sufficient weight of soil to be injurious to the fibres of the white-thorn, which is not planted deeper than it stood in the seed bed. It is then cut into three or four eyes. No fences are better made or grow more

rapidly than thorn raised in this county, but although the after-treatment is improved, there is much injury too often done by improper cutting. Where fences are judiciously treated, they are, after a certain age, cut upwards by an instrument called and somewhat like a scimeter, the stem being cut at irregular heights, giving the hedge the appearance of a hog-mane; by this means the lower as well as the upper parts are kept thick and close from two to three feet high above the bank, and the field is thus exposed to the light and air. Mr. Withers, of Holt, in his *Essay on Planting*, says—

“ *Plashing* is a mode of repairing or modifying a hedge by bending down a portion of the shoots, cutting them half through near the ground to render them more pliable, and twisting them among the upright stems, so as to render the whole effective as a fence, and at the same time preserve all the branches alive. For this purpose, the boughs to be plashed or bent down must not be cut more than half through in order that a sufficient portion of sap may rise up from the root to keep alive the upper part of the branches. Where hedges are properly formed and kept, they can seldom require to be plashed; but this mode of treating a hedge is most valuable in the cases of fences abounding with hedge-row timber, when from neglect or any other cause the hedge has become of irregular growth.”

Another method is called *Buck-stalling*. The tops of the thorns are cut down to about two feet from the stubs, leaving an even row of stalks, which never thicken at the lower part. Another plan is to cut down the

fences within a few inches of the bank, and then to clear out the ditches facing the bank with these scourings, the top being filled up about two feet high with bunches of thorns, and the effect of this practice is that gaps are made, and are never completely repaired. A third practice is to leave some of the longest and medium stems to lay down along the bank, and by putting some stems in the top of the bank a short and strong fence is made, while the appearance is both neat and agreeable, forming a sort of pigmy hurdle. Some persons peg these stems down close to the bank and cover them, when they strike and form new stubs. Some are clipped instead of plashed, and form a very neat as well as secure fence, but these are generally left higher than those which are hog-maned. Upon the whole, however, there has been a great general improvement, but such are the number of fences of great antiquity in this county, that it must be long ere they can be brought to assume the neat appearance of those which have been raised since these new systems were introduced by Mr. Blaikie.* On some of the large

* "The living fences most generally used in agriculture are the whitethorn (quickset), because it has spiny branches, and forms a strong defence against cattle; and when kept well cut, it forms hedges scarcely less impregnable than those composed of holly. The common elder (*Sambucus nigra*), the blackthorn (*Prunus spinosa*), furze, holly, hornbeam, and other shrubs and plants, have been from time to time recommended for constructing hedges; but none of these have come into very general use. The blackthorn is not reckoned so good for this purpose as the hawthorn, because it is apt to run more into the ground, and is not so certain of growing: however cattle are less likely to crop fences of elder and blackthorn than those of the whitethorn. The REV. MR. FARQUHARSON, in an able essay, has advocated the cultivation of the elder for hedges, from

farms in the West of Norfolk, where the brecks consist of several hundred acres, fences of Scotch fir have been raised and clipped. These offer some protection to the sheep, as well as prevent stock from trespassing. There is one point, against which the opinion is universal, the planting ash timber particularly, but indeed any timber on the banks. Nothing can be more exhausting to the land near which they grow, while they are almost universally destructive to the crop over which their branches extend.

On really well cultivated farms, all trees and pollards

its rapidity of growth, hardihood, and cheapness. The principal objection to it appears to be that it does not thicken and close up its branches, so as to form an impervious fence like the whitethorn. Furze is chiefly used for hedges on waste sterile soils, particularly those which are dry, sandy, and gravelly, where it grows better than other shrubs. With common care furze fences last for a very long period, but they require judicious management to prevent the roots becoming exposed. Sowing the seed in three tiers on a bank is recommended as the best mode, as the plants can be kept at different heights by the bill, so as to form a thick hedge. There are generally two objections advanced against the adoption of whin-fences. The first is, that the wall or mound required for raising the whin is of such dimensions, as to occasion a great waste of ground; and the second is, that the whins have a tendency to spread over and injure the adjoining grounds. But with a slight well-trimmed wall-fence of furze, these objections may easily be obviated.

"In the management of hedges of every description, an important point is to keep them thick and impervious to wind or animals, near the ground; for which purpose, the section of the hedge requires to be made broader at the base than at the top, in order that the exterior leaves in every part of the hedge may enjoy, in an equal degree, the influence of light, air, and perpendicular rains.

"MR. FRANCIS BLAIKIE's little work "*On the Management of Hedges and Hedge-row Timber*," contains much useful practical information on this subject. Beech, ash, and fir are not only ruinous to fences, but are also otherwise injurious to farmers: oaks, the common narrow-leaved elm, and the black Italian poplar, do comparatively little injury, and will be found more profitable hedge-row timber. Quickset-hedges require to be kept trimmed with the shears or bill."—WITHERS ON PLANTING.

are cleared away, and the lands laid as open to the sun and wind as possible. At North Runcton, there is a peculiar method of keeping fences on Mr. Cambridge's farm, and treating the banks, one side being perpendicular, and the other an inclined plane. The ditch is levelled down, an under-drain being first put down to carry off the water to the main point. The fences are cut and clipped like a wall, thus  and present an excellent barrier to stock.

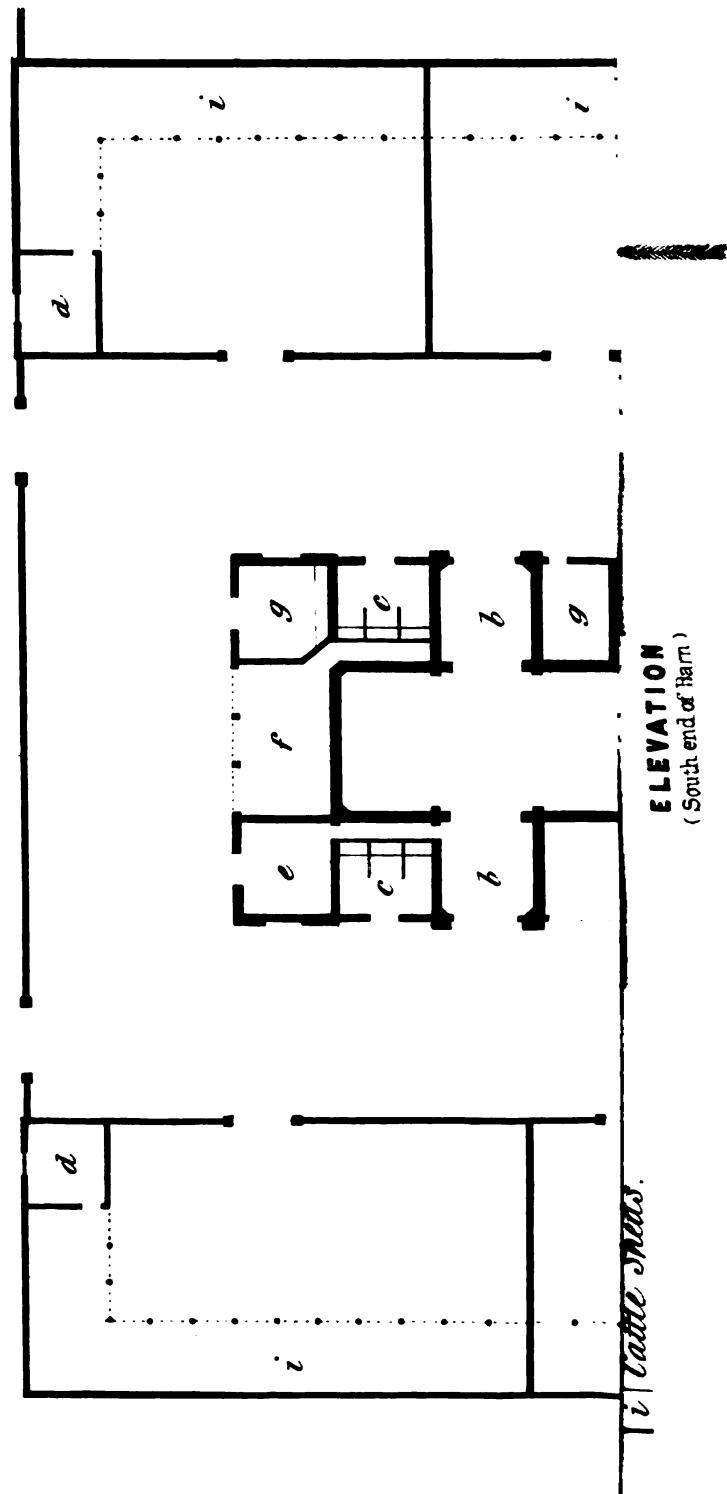
FARM BUILDINGS.

When the late Lord Leicester improved the residences of his tenantry, or erected new, it was a matter of remark, and in some degree of undeserved censure, that he should have built gentlemen's houses for his tenantry; the complainants not observing that this was a part of the system of liberality he pursued, to demonstrate his estimation of the individual, and of his desire to place the tenant in the position to which his capital entitled him. There was also this additional reason, that as the system of agriculture progressed, he saw that larger and more commodious buildings would be required, in proportion to the increased quantity of stock kept. In more than one instance has he said to a tenant, "If you will keep an extra yard of bullocks, I will build you a yard and sheds free of expense." To exemplify the importance in which he held the construction of farm buildings, he erected that fine specimen of an agricultural homestead, the great barn and cattle yards in the park, as an example of what such buildings ought to be, and

1870-1871

the first year of my life, I have been
to school in Boston, and now, at the age of
fifteen, I am a member of the Boston High School.
I have had a good time, and have learned
to love a few nice girls, especially one named Mary,
and attachment to her has made me loathe
any other girl. I have also learned to like reading
books, and desire to continue with the same
until I shall attain knowledge sufficient for myself.
I have made two sets of drawings, one consisting
of drawings of those established communities, and
the other of the communities yet to be established.
The former is of great interest, and the latter
is more difficult to understand, because it is
not so easy to get information about them, and
therefore I have made many mistakes in
them. I have also made some drawings of
the animals of the world, and have drawn
them all in a very simple way, and have
done them all in a very simple way.

BARN and CATTLE SHEDS at HOLKHAM.



there is none more perfect in the county; many of the farms on the Holkham property exhibit the same characteristics.

Every person who has travelled through the county must have been struck with the improved arrangements of most of the buildings of a similar kind erected in the last twenty-five years in Norfolk. An enumeration would be tedious, but the fact will be universally admitted.

The main object in the construction and erection of all agricultural buildings ought to be centralization, convenience, accommodation, and economical arrangement, and all the yards and offices should be placed as much under the master's eye as possible. In the arrangement of the yards for cattle, attention should be paid to keep them dry and warm, and as free from disturbance as possible. In the ground plan of the Holkham great barn, &c. this point will be found to be provided for, while the yards, at the same time, are so placed, that the cattle have plenty of air, and are guarded from extreme cold.

The following is the reference to the Plan:—

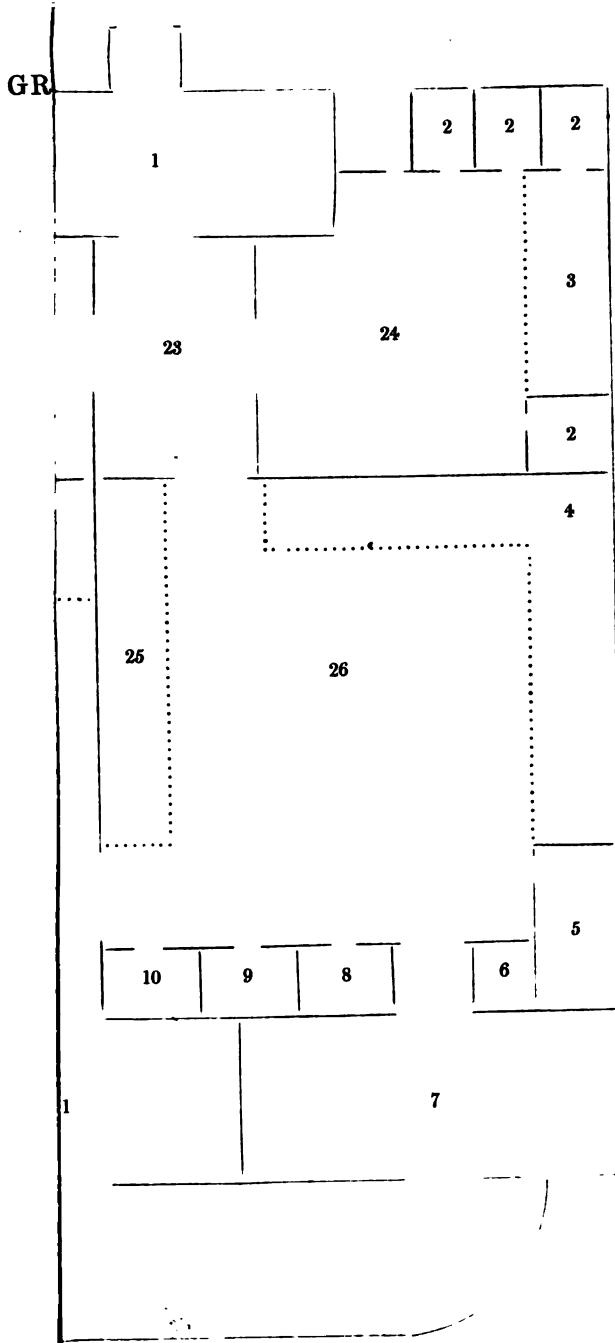
A. Barn	F. Cart lodge
B. Portals	G. Baiting stables
C. Lean-to sheds for stall beasts	H. Horse track and thrashing machine
D. Do. for Turnips, oilcake, and hay	
E. Granary	I. Cattle sheds

The next sketch is the ground plan of the buildings at MR. HENRY OVERMAN's, a farm of six hundred acres, at Weasenham. This is introduced rather for the purpose of shewing now much convenience and accom-

modation may be obtained in a comparatively small space, than for any other superiority. At the same time it is but just to state that the arrangement and management are worthy the attention of all admirers of utility, order, and neatness.

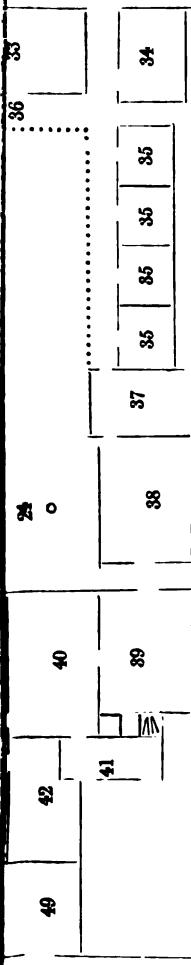
1 to 12	House and garden	39	Colts' yard and shed
13	Knife house	40	House for urate, ashes, &c. and fowls' house in the roof
14	Apple house	41	Foals' house
15	Garden tools house	42	Farm implements' house
16	Hens' house	43	Carpenters' shop
17	Gig house	44	Bulls and fat beasts' house for four
18	Larder	45	Straw house
19	Brew house	46	Corn barns
20	Slaughter house and for dressing seed wheat	47	Turnip house
21	Four-stall house for milking cows	48	House for eight fat beasts
22	Calves' house	49	Turnip house
23	Cistern for pigs' food	50	Sows' and boars' house
24	Piggeries	51	Four-horse power thrashing machine
25	Stable for twenty cart horses	52	Stable and yard for old horses
26	Chaff bins	53	
27	Stable for sick cart horses	54	Turnip house
28	Hay and straw house for riding horse stable	55	Young heifers' yard and shed
28a	Riding horse stable	56	Colts' yard and shed
29	Saddle and harness room	57	Waggon and cart sheds, with granaries in roof
30	Groom's bed room	58	House for sick cattle
31	Liquid manure tanks and drains	59	Calves' house
32	Three lying-in hospitals for cows	60	Yardman's store house
33	Fat bullocks' house for tying up thirteen beasts	61	Fresh-water well with pump
34	Calves' house	62	Ditto ditto
35	Straw house	63	Orchard
36	Cows' house for twenty-four cows	64	Garden
37	Hay barn	65	Ditto
38	Horse-power hay cutting machine	66	Privy
		67	Green house.

The buildings at Ripon Hall, a farm of about 300 acres, the property of R. MARSHAM, Esq. of Stratton



for fifteen horses
 s house
 in
 for four riding horses
 use
 house
 house
 /
 ed
 rd
 yard
 x yard

- 25 Straw bin
- 26 Bullock yard
- 27 Sheds
- 28 Horse yard
- 29 Cart house
- 30 Waggon house
- 31 Boiling house for composition
- 32 Carpenter's shop
- 33 Wood yard
- 34 Offices
- 35 Dwelling-house



50

1	Wheelwrights' shop	19	Sheds	36	Fowls' houses
2	Smithery	20	Stable for twelve horses	36	Covered passages
3	Traverse	21	Chaff bin	37	Cheese room
4	Sheds for timber and deals	22	Harness house	38	Dairy
5	Covered saw pits	23	Bullocks' lodges, roof supported with brackets	39	Lining room
6	Carpenters' shop	24	Pumps	40	Back kitchen
7	Painters' shop	25	Pigeon houses, with straw bin over Hospital stable	41	Larder with cellar under
8	Stable	26	Bullock yard	42	Wood house
9	Wood yard	27	Do.	43	Slaughter house
10	Bricklayers' storehouse	28	Hay house	44	Boiling house for composition
11	Sheds for bricklayer	29	Turnip house	45	Enclosed house for sow
12	Hay and chaff-cutting house	30	Cow's house	46	Pig's Sties
13	Sheds for cattle	31	Calves' boxes	47	Barn
14	Privity	32	Fattening house for fowl, with fowl house over	48	Sheds for waggon and carts
15	Colts' yard	33	Do.	49	Houses for agricultural implements
16	Pigs' houses	34	Do.	50	Gardens
17	Stock yard			51	Roadway
18	Horse yard			52	Stratton Park

Strawless, have been erected within a year or two. They are of red brick, and while they demonstrate great taste in design, they also exhibit an arrangement and compactness which ensure every convenience such a farm requires.

The last plan is worthy of examination, as exhibiting a proof that in all erections for a farm, the same judicious system may be observed. The plan is the representation of the same gentleman's dairy farm. It is situated at the back of the mansion. This plan, like that of the Ripon Hall Farm, is MR. MARSHAM'S.

PLANTATIONS

HAVE very much increased in all parts of the county, not only where the soil will repay better than by tillage, but for the preservation of the game. The face of the county has consequently been not only very much changed, but has become richly adorned. Instead of its presenting an even and uninteresting surface, as was said of it in times of yore, hill and valley offer almost on every side picturesque beauties which cannot fail to strike the traveller of forty years since. There is scarcely a landed proprietor, the size of whose estate allows of planting, who has not made some addition to his woods. The system is also materially improved. Nearly every large estate has its own nursery, and the perfection to which horticulture is carried, and the engagement of practical gardeners, who often superintend the general planting, has introduced a system, the effect of which is observable in the more rapid growth of the trees, in the timely, though not too early and appropriate thinning, while the after pruning is a matter of much greater attention than formerly. It is impossible where the extent and the number of estates are so large to obtain any data which can convey an idea

of the amount of planting done, but the altered and improved appearance of the county demonstrates the vast addition to its planted average; every species of tree is to be found. One gentleman planted the locust trees in large numbers, but there is reason to believe without the vast and gainful success promised by Mr. Cobbett.

THE COMMONS.

NORFOLK now contains 27,000 acres of uninclosed or waste land, scattered through about 100 parishes, the quantities varying from 20 acres to 2300 in each. A considerable portion of these would repay cultivation, and would in all probability be inclosed were it not for the expenses attending an application to Parliament; and whenever a general Inclosure Act shall be passed, which common policy announces cannot be long delayed under the necessity for increasing the area, both for production and employment, a very considerable number of these wastes will come under the plough. Amongst the commons, which are most likely to repay the employment of capital, are those of Brisley, Creake, Rudham, Massingham, Kipton, Fakenham, Cawston, Hevingham, Cossey, Mulbarton, Old and New Buckenham, Wacton, &c. But the advantage would not be confined to an increase of production and employment; the morals and habits of the inhabitants would be materially improved. Mr. Kent's experience brought him to the conclusion, even in those times, that "commons

were a premium to pauperism and crime. The larger the commons," he observed, "the more miserable the inhabitants; for their precarious dependence only serves to render them unfit for regular labour, and they adhere to it from habits of idleness, although they might live with fair wages in comparative comfort."

How much stronger would that conviction have been had he lived in later times, when every acre capable of cultivation is imperatively required for the enlarged employment of an increased and idle population, as well as for the production of food. No stronger instances can be given of this opinion than two with which the writer has been acquainted for a series of years. The parish first in question, has two commons of something like three hundred acres of land, among which are some good meadows. It contains a population of about 1200 persons. Attempts both at late and earlier dates have been made to obtain inclosure, but the owner of the greater portion of the parish has been continually prevented upon pure motives of ideal benevolence to refuse his consent. The consequence is, that upon every morsel of land that has been able to be bought, cottages have been built by speculators, settlements made, and the rates and pauperism increased, for the sake of the common rights thus obtained. The village has many unemployed hands, and as the population increases, the evils will extend. Had the inclosure taken place, employment would probably have been increased with the increase of cultivation, while poverty would have been diminished.

Not many miles distant is a village offering a contrast, that proves the soundness of Mr. Kent's judgment, and the correctness of his views. This was noted not many years since, for the comparative immorality and poverty of its inhabitants, for its large heath and ling grounds, which were in common. The proprietor determined to attempt a re-action, and brought into cultivation, gradually, portions of the heath by the following method—the heath and ling were ploughed in as deep as the plough would command, where it remained to decay. It was then covered by a large quantity of light sandy clay, manured, cropped and gradually brought into cultivation, and the result has been that a considerable portion of that which was but a few years since heath is now studded with new farming buildings and cottages, while the crops add another to the many hundreds of proofs that the soil is grateful, where capital, skill, and labour are judiciously applied. Wheat, barley, rye, brightened last year these once barren heaths in rich abundance, while the culture and quality of the turnip crop proved how much had been done by the personal attention and interests of the proprietor.

The effect upon the village has been that payment for labour has been in a great degree substituted for payment in rates or benevolence, and although the change has not been complete, it still affords an important proof of the effect of that "pride and shame," of which Mr. Kent speaks, leading to the attainment of comparative comfort by honest industry rather than by continuing a burden to others.

FAIRS.

THE principal Fairs have dwindled in numbers in consequence of the opportunities which the Norwich Cattle and Sheep Market presents every week to the farmer of purchasing and selling at periods most convenient to himself. The large traffic which is constantly carried on, and consequent competition on the part of the sellers, it might be thought would have had a material influence in reducing the prices of store beasts. This has not been the case, for such is the extension of the cattle and sheep feeding throughout the county, that the supply of the former has risen, and that of the latter is not very often greater than the demand. The effect has been rarely to lower, in any material degree, the price of lean cattle, while that of sheep has generally been more affected by unforeseen circumstances than any want of present or ultimate demand. The Norwich Cattle Market, now the greatest weekly fair of England, was from forty to

fifty years scarcely worthy of notice, the stock principally consisting of a few cows and calves. "I remember," said a gentleman to the writer, on the 28th of December, 1843, when the whole of this fine market was filled with sheep and beasts, among which were a large drove of the finest and best-bred shorthorns that had been seen during the year—"I remember when I first came on this Hill, between fifty and sixty years ago, there were not above a few cows for sale." At that moment there could not have been less than from 50 to £70,000 worth of animals on the very spot. What proof of the progress of agriculture more convincing? The greater part of these changed hands before four o'clock. Of the quantity of business now transacted upon Norwich Hill sufficient data have been already given to enable a just estimate to be formed. But this fact will perhaps demonstrate its even increased importance within the last few years.—the Town Council of Norwich has let the tolls for double the amount received for them in the year 1834 and 1835, independently of the expenses they incurred—£250 was the amount received at the former period, £500 is the present rental. For certain reasons it is unnecessary to mention, the first-named sum cannot be considered to give the exact amount of the tolls; but even making a due allowance, the increase is so great that, although the relative difference is reduced, a large addition will be the result. The other principal market is Lynn, established in 1826, a statement of which has already been given.

FAIRS.

- Aylsham principally for Horses.
Cawston for Sheep, where some thousands
are sold.
Elmham for Cattle and Sheep.
St. Faith's for Cattle, lasting several weeks.
Gaywood ditto.
Harleston which has greatly declined.
Harling East ... for Sheep principally; a large fair.
Kipton Ash a large Sheep Show.
Methwold
Norwich on Maunday Thursday, Cattle, Sheep,
Horse, and general Fair.
Magdalen Fair ... at Sprowston, near Norwich.
Swaffham a large Fair both for Beasts & Sheep.
-

CONCLUSION.

IN concluding a Report consisting of details so multifarious, a brief recapitulation of the principal heads will not be deemed superfluous. The great features are the superior excellence and skill displayed in the cultivation of the light soils—in the substitution of the continuous system of culture and production, instead of allowing an intervening fallow—the application of artificial manures to an extent even unprecedented in the period of the highest agricultural prosperity—a no less liberal use of artificial food both for beasts and sheep—the economy pursued in consuming both the root and straw crops, and by the more judicious amalgamation of the calcareous substrata—at once enriching, fertilizing, and giving staple to the productive surface of the soil—making use of every available improvement in the implements—the investigation and adoption of the advantages which scientific and practical information affords, teaching how a frequent change of seed and soil augments production—the culture of new varieties

of grain, and though last not the least important, the superior knowledge of the principles of draining, by which the most tenacious soils have been made more fertile.

By these and other lesser means a clean, well-managed and good fallow has been obtained for the turnip, where turnips never grew before. By the invention of that first of implements, the drill—by the judicious and frequent use of the horse-hoes, and by the concentration of the manures, a certain plant of turnips and a rapid growth have been obtained, thus ensuring the crop, which is the basis of all operations and without which the labour of the Norfolk farmer would be in vain. Thus has not only the quality but the breadth grown and weight of the turnip crop been increased in an extraordinary degree, when the nature of the soils of West and South Norfolk are considered. Swedes are grown in lieu of white turnips, while the use of mangel wurzel is known to be better suited for spring food. “I remember,” says a friend to the writer, “the first Swedes my father grew; they were the produce of a quarter of a pint of seed sent him by a London bookseller. I sowed them with my own hand. This was about thirty-seven or thirty-eight years ago, and being a novelty I had a great curiosity to know to what my *protégés* would turn. They were miserable affairs, something like cabbage stalks with the cabbage part omitted. They were given up from an idea that nothing could be made of such worthless materials. However, others had more patience or more wisdom, and hence the noble Swedes of the present day, which

even now I am inclined to think are susceptible of still further improvement." Whether our friend's judgment will be prophetic it is unnecessary to discuss, although looking to the advance within the last few years, and the aid which chemical science is now giving, it is but a fair inference that by informing the farmer what is the best food for the turnip—its quality and weight will be relatively improved.

For Barley one good earth is given in lieu of three or four formerly considered necessary, science having discovered that after complete pulverization the less the earth is opened to the atmosphere the less its fertilizing properties are exhausted. And the state of both is rendered more certain by that highly valuable implement Biddell's scarifier—one of the most important inventions of late years. A greater attention is universally paid to a clean culture, to the quality and better dressing of all seeds, while the introduction and almost universal growth of Chevallier barley has enabled the farmer to obtain a better quality, greater produce, and a higher price. Instead of six coombs per acre, eight and ten are the average produce of the lands in West Norfolk. Hay is improved in quality and increased in quantity, while the introduction of the Cow and other varieties of artificial grasses in the rotation has postponed the return of clover to a longer period, and thus with the aid of gypsum and clay the crop is made in comparison more certain. Where Rye only was grown Wheat now rears its golden ear over many thousands of acres. How this change has been brought about has

been already fully described in EARL SPENCER's Improvements of West Norfolk, but it may be thus briefly stated—by giving solidity to the soil by the application of clay—the increased quantity of cattle and sheep—manuring the olland, and obtaining a good flag bed for the seed; the success of all depending upon the turnip crop.

More manual labour is employed and higher wages are paid in comparison with the cost of the necessaries of life. Fewer horses are kept; the former performing a larger quantity of work, from 20 to 40 per cent. while from the improvement in the roads more corn is sent to market with the same means; two horses do the work of three in the harvest field, and in carting manure.

The substitution of mowing for reaping has shortened the duration of harvest at least a week, has increased the quantity of straw, and consequently enlarged the quantity of farm-yard manure, now rendered doubly valuable by the system of high feeding. The farmer is often enabled to secure his crop free from rain, or if rain should fall, the sheaves from their loose binding dry quicker, and without untying; while his anxiety is thus lessened, the labourer is benefited both in his own person and in the persons of his wife and children, by his shorter period of labour, and by their additional earnings. Mowing creates expense in labour, and causes more in the cost of thrashing, but is repaid by the increased manure and cost of corn.

Of Beasts and Sheep thousands are now fatted, and of the latter also bred, where hundreds only were formerly

grazed; while the improved quality of the cattle has caused a quicker return to be obtained.

The corn is stacked in the fields instead of in the yards. Ransome's and Garrett's threshing machines have enabled the farmer to perform from 20 to 50 per cent. more work with the same power; and lastly in the operations of husbandry, in the universal improvement, in the practical skill of the labourer, in the regularity, order, and management of all the operations, and of farm conduct in general, a vast advance has taken place.

To THE LANDED PROPRIETORS and TITHE OWNERS these vast advances have been most valuable and important. To the former, by enlarging the cultivated area and increasing production by high tillage and improved mechanics, brought about by the skill, capital, and industry of the Tenantry and the encouragement of the Landlord, a great additional income, as well as a vast increase in the value of property, has taken place.

THE TITHE OWNER has been advantaged by the same causes. Without any pecuniary risk, his income has progressed in an almost equal degree with the Proprietor, and the effect of this increase of wealth has been, that the Incumbents of the county of Norfolk have obtained an influence and position enjoyed perhaps in no other county.

Unhappily among the LABOURING POPULATION a similar progression cannot be traced. The commitments and the state of the agricultural districts show the reverse. And although it may be urged that the increased amount of commitments is attributable to the

activity and efficiency of the police, yet it cannot be denied that the growth of the population, exceeding the field of employment, the debasing effects of the poor laws, and the very insufficient provisions for the education of the poor, had left them impoverished, ignorant, and depraved. It is to be hoped a better æra has commenced.

The effect of this advance upon THE TENANTRY themselves is what might justly be expected from the employment of greater capital and enlarged minds and information. They are generous,* independent, hospitable, free, intelligent, and very many have carried intellectual pursuits and acquirements far beyond the race of farmers of former times. They are wisely anxious to avail themselves of those opportunities which the in-

* In August, 1843, a portion of the county was visited by the most fearful hailstorm ever remembered. The damage done to the crops, it being just previous to harvest, was dreadful; in short it was devastation. One occupier alone, Mr. Cyrus Gillett, of Markshall, sustained damage amounting to upwards of two thousand pounds. The total injury was estimated, by Valuers appointed for the purpose, at upwards of thirty thousand pounds. A meeting was called, at the Palace, by the Bishop, of the Gentry, for the purpose of raising a subscription to relieve the sufferers, but it was thinly attended and no result ensued. It was then taken up by the Yeomanry conjointly by the Gentry; the Yeomanry determined to raise a sum for the relief of the sufferers by a rate of three-pence in the pound, at the same time leaving it in the power of any parish or person to refuse. The result was, that in a short time, upwards of ten thousand pounds were received and distributed according to the degree of the sufferers who chose to accept any compensation. The manner in which this call was responded to, is one of the brightest and most noble traits of which the county has a right to boast, and affords an example of generous sympathy, which, while it will serve as a beacon to other counties under any similar calamity, will also hand down the men of Norfolk as open-handed and generous as they are skilful and industrious.

creasing intelligence demands of every man, the important business of whose life it is to provide for the wants of a powerful, intellectual, and extended empire.

February 27, 1844.

BACON, KINNEBROOK, AND CO. MERCURY OFFICE,
NORWICH.

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